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PN - JP2000226932 A 20000815  
TI - LIGNEOUS DECORATIVE FLOOR MATERIAL AND COMBINATION THEREOF  
PA - DAIKEN TRADE & INDUSTRY DAIKEN TRADE & INDUSTRY  
IN - KANEDA MASAKI; TERADA YASUHITO  
AP - JP19990030387 19990208  
DT - II

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AN - 2000-569922 [53]  
TI - Decorative wooden flooring has decorative groove with flat base formed on surface make-up layer which extends upwardly with curvature  
AB - JP2000226932 NOVELTY - Decorative groove (1) with a flat base (12) is formed on a surface make-up layer (4) extending upto a wooden fiber board (3). The surface make-up layer is formed on the wooden fiber board. Specific gravity of the surface make-up layer is kept less than 0.9, or more than 0.6. A side (11) formed on outer swelling curved surface extends from the flat base.  
- USE - In decorative wooden flooring.  
- ADVANTAGE - Enhances feeling of depth due to formation of the ornamental groove.  
- DESCRIPTION OF DRAWING(S) - The figure shows an enlarged partial cross-sectional view of the decorative wooden flooring.  
- Decorative groove 1  
- Wooden fiber board 3  
- Surface make-up layer 4  
- Side 11  
- Flat base 12  
- (Dwg. 3/15)  
IW - DECORATE WOOD FLOOR DECORATE GROOVE FLAT BASE FORMING SURFACE UP LAYER EXTEND UP CURVE  
PN - JP2000226932 A 20000815 DW200053 E04F15/04 010pp  
IC - B27M3/04 ;B27N3/04 ;E04F15/02 ;E04F15/04  
DC - P63 Q45  
PA - (DKEN ) DAIKEN KOGYO KK  
AP - JP19990030387 19990208  
PR - JP19990030387 19990208

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PN - JP2000226932 A 20000815  
TI - LIGNEOUS DECORATIVE FLOOR MATERIAL AND COMBINATION THEREOF  
AB - PROBLEM TO BE SOLVED: To form a decorative joint groove having a curved face on a ligneous decorative floor board.  
- SOLUTION: A decorative surface layer 4 is formed on the surface of a ligneous base board constituted of ligneous fiber boards of which the specific gravity is 0.6-0.9 at the surface layer. A decorative joint groove 1 formed by cutting and opened to the surface of the decorative surface layer 4 is provided. The decorative joint groove 1 is provided with a bottom face 12 formed nearly flat and mutually confronting side faces 11, 11 to have a curved face swelling outward so as to gradually expand the width of the groove as it goes up to the opening.  
I - E04F15/04 ;B27M3/04 ;B27N3/04 ;E04F15/02  
PA - DAIKEN TRADE & IND CO LTD  
IN - TERADA YASUHITO KANEDA MASAKI  
ABD - 20010103  
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(71) 出願人 000204985

大建工業株式会社

宮城県東涌町井波町井波1番地の1

(72) 発明者 寺田 孝人

大阪府大阪市北区中之島2丁目3番18号

大建工業株式会社内

(72) 発明者 金田 正樹

大阪府大阪市北区中之島2丁目3番18号

大建工業株式会社内

(74) 代理人 100077981

弁理士 前田 弘 (外1名)

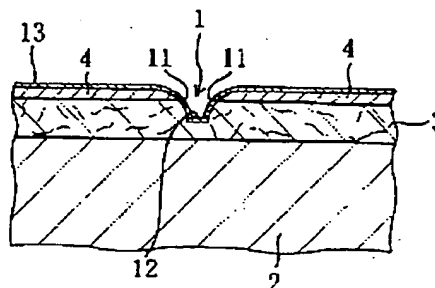
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(54) 【発明の名称】 木質化粧床材及び木質化粧床材の組合せ

(57) 【要約】

【課題】 木質化粧床材に曲面形の化粧目地溝1を形成する。

【解決手段】 表面層が比重0.6以上0.9以下の木質繊維板によって構成された木質基板の表面に表面化粧層4が設けられ、該表面化粧層4の表面に開口した切削加工による化粧目地溝1を有し、該化粧目地溝1は、略平坦に形成された底面12と、該底面12から開口部に行くに従って溝幅が漸次拡大するように外膨らみ曲面に形成された側面11、11とを備えている。



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【特許請求の範囲】

【請求項1】 木質基板の表面に表面化粧層が設けられ且つ該表面化粧層の表面に開口した切削加工による化粧目地溝を有する木質化粧床材であって、

前記木質基板は、少なくとも表面層が比重0.6以上0.9以下の木質繊維板によって構成され、

前記化粧目地溝は、略平坦に形成された底面と、該底面から開口部に行くに従って溝幅が漸次拡大するように外膨らみ曲面に形成された相対する側面とを備えるよう切削によって形成されていることを特徴とする木質化粧床材、

【請求項2】 木質基板の表面に表面化粧層が設けられ且つ該表面化粧層の表面に開口した切削加工による化粧目地溝を有する木質化粧床材であって、

前記木質基板は、少なくとも表面層が比重0.6以上0.9以下の木質繊維板によって構成され、

前記化粧目地溝は、略平坦に形成された底面と、該底面より立ち上がった相対する側面とを備えるよう切削によって形成され、

前記相対する側面は、前記底面から略垂直に立ち上がった相対する下側垂直部と、該下側垂直部に続いて溝幅が開口部に行くに従って漸次拡大するように外膨らみの曲面形状に形成された相対する上側曲面部とによって構成されていることを特徴とする木質化粧床材、

【請求項3】 前記化粧目地溝の底面が、前記木質繊維板層に位置することを特徴とする請求項1又は請求項2記載の木質化粧床材、

【請求項4】 前記木質基板が、板状基材表面に前記木質繊維板を接着一体化したものであり、該木質繊維板の厚さが1.0mm以上2.5mm以下であることを特徴とする請求項1乃至請求項3のいずれかに記載の木質化粧床材、

【請求項5】 前記木質繊維板の少なくとも前記化粧目地溝が形成された部位には合成樹脂液が含浸し硬化してなる耐水強化層が形成され、前記化粧目地溝の底面及び相対する側面が前記耐水強化層によって構成されていることを特徴とする請求項3又は請求項4記載の木質化粧床材、

【請求項6】 前記表面化粧層が夾板によって形成され、前記化粧目地溝の底面が前記夾板内に位置することを特徴とする請求項1記載の木質化粧床材、

【請求項7】 前記表面化粧層が、合成樹脂液が含浸し硬化してなる合成樹脂強化夾板によって形成されていることを特徴とする請求項1乃至請求項6のいずれかに記載の木質化粧床材、

【請求項8】 前記化粧目地溝は、溝底部の溝幅が0.3mm以上1.0mmの範囲にあり、溝開口幅が2.0mm以上5.0mm以下の範囲にあり、溝深さが0.4mm以上1.5mm以下の範囲にあることを特徴とする請求項1乃至請求項7のいずれかに記載の木質化粧床

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材、

【請求項9】 互いの側面が突き合わされる複数の床材からなり、

前記各床材は、請求項1乃至請求項8のいずれかに記載された木質化粧床材よりなり、

前記相隣る床材の相対する上縁は角が落とされて外膨らみ曲面形状の丸みが付けられ、

前記両床材の少なくとも一方には、前記丸み部分と、該部分よりも下側の相手側床材に当接する突き合わせ面との間に略平坦な段部が形成されていることを特徴とする木質化粧床材の組合せ、

【発明の詳細な説明】

【0001】

【発明の属する技術分野】本発明は、木質化粧床材に関する。

【0002】

【従来の技術】木質化粧床材として、図14に示すように床材上縁部を斜めに面取り加工するとともに、床材表面にV字状等の化粧目地溝aを形成したものが知られている。このような木質化粧床材では、相隣る木質化粧床材の相対する側端面に形成された嵌突部bと雄突部cとを連結したときに、その連結部表面側に床材表面に形成された化粧目地溝aと同様の化粧目地溝dが上記面取り加工部によって形成されることになる。このように、上記連結部は床材表面の化粧目地溝aと同様の外観を呈することから目立たなくなり、床全体を見たときには、あたかも多数の木質化粧ピース材が接着されているような感じを与え、当該連結部の化粧目地溝dが床材表面の化粧目地溝aと相俟って、床表面の装飾性を高めている。

【0003】しかしながら、V字状の化粧目地溝aは、切削加工がしやすいという利点がある反面、歩行感やソフトなデザイン感を現出させるためには不十分点がある。このため、木質化粧床材の上縁部を曲面形状とし、木質化粧床材同士を接合連結したときに、その連結部に図15に示すような相対する側面が曲面形状になった目地溝eが形成されるようにすることもなされている。

【0004】

【発明が解決しようとする課題】しかし、前記曲面形状の化粧目地溝の場合、ソフトなデザイン感や歩行感やV字状の化粧目地溝に比べて向上するものの、その反面、ソフトなデザイン感が現出することにより、化粧目地溝としての強調感や深み感が乏しくなってしまう。化粧目地溝を深くすることも考えられるが、床材の場合は、清掃性や強度の観点から、深い目地溝を形成するにしても限界があり、装飾性を高めることは難しいものであった。

【0005】また、図15に示すように、木質化粧床材の上縁部を面取り加工することによって曲面形状の化粧目地溝を形成することは比較的容易であっても、木質化粧床材の表面を加工して曲面形状の化粧目地溝を形成す

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る場合には以下のような問題があった。

【0006】(1) その加工方法としてプレスにて熱をかけたが型押しすることが考えられる。しかし、この方法では一枚毎のバッチ処理にならざるを得ず、生産性が極めて悪くなる。また、化粧目地溝の近傍部分だけが縦糸により緻密化して内部応力が蓄積されるので、湿気を吸収すると膨れて元に戻ろうとし、化粧目地溝自体の装飾性を減じる危険がある。

【0007】(2) 他の加工方法としてカッター、鋸、ルーター等の切削具で切削した後、サンディング等を行って形成する方法も考えられる。しかし、曲面形状の化粧目地溝の場合は、その溝断面形状と類似した刃先端が非常に尖った形状の切削具を用いなければならず、刃先が破損し易いという問題がある。また、切削具を研磨補修すると刃形状が変わり易く、溝形状の精度を保つことが難しいという不都合がある。サンディングにしても、木質化粧床板の上縁部を面取りした後サンディングして形を整える場合とは違って、それは切削溝のサンディングであるから、切削面を平滑にする程度のことでは行うことができて、その切削溝をきれいな曲面形状の化粧目地溝に仕上げることは難しい。

【0008】(3) また、木質基板として合板を使用した場合、切削によって化粧目地溝を形成すると、化粧目地溝内に合板本体のボラスな粗面が露出したり、ささくれを生じたりすることがあり、その場合は塗装しても仕上がりが外観が良くなり、特に曲面形状の化粧目地溝の場合には、そのような表面欠陥が目立ち易く、装飾性の向上に不利になる。さらに、木質基板として合板を用いる場合、表面の硬さが不足する場合があり、キャスト付きワゴンによって傷を生じたり、物の落下痕を生ずるなど表面化粧層に傷が付き易くなるという問題もある。

【0009】すなわち、本発明の課題は、上述の如き問題を解決した木質化粧床材を提供することにある。

【0010】

【課題を解決するための手段】この出願の発明は、木質基板の少なくとも表面層を所定比重の木質繊維板によって構成し、且つ化粧目地溝の形状に工夫を加えることによって、上記課題を解決している。

【0011】すなわち、請求項1に係る発明は、木質基板の表面に表面化粧層が設けられ且つ該表面化粧層の表面に開口した切削加工による化粧目地溝を有する木質化粧床材であって、前記木質基板は、少なくとも表面層が比重0.6以上0.9以下の木質繊維板によって構成され、前記化粧目地溝は、略平坦に形成された底面と、該底面から開口部に行くに従って溝幅が漸次拡大するように外膨らみ曲面に形成された相対する側面とを備えるよう切削によって形成されていることを特徴とする。

【0012】このような発明であれば、化粧目地溝の相対する外膨らみ曲面形状の側面が略平坦になった底面に

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続いていくから、ソフトなデザイン感や歩行感を確保しながら、前記平坦な底面の存在によって当該化粧目地溝に深み感と張力感を与えることが容易になり、木質化粧床板の装飾性の向上に有利になる。

【0013】また、化粧目地溝の底面が略平坦に形成されているということは、該化粧目地溝の切削加工に刃先が鋭利に尖った切削具を使う必要がなく、刃先の欠けや刃先の積屑に伴う溝形状の不揃いの問題が解消され、しかも、切削加工であるから熱圧プレスを用いる必要もなく、品質の向上及び生産性の向上にも有利になる。

【0014】さらに、表面化粧層の下は比重0.6以上0.9以下の木質繊維板によって構成されているから、床材としての適度な硬度が付与され、キャスト付きワゴンや落下物による床表面の傷付き防止に有利になる。木質繊維板の比重が0.6未満となると、床材表面の硬度が不足し上記落下物等からの保護に不充分となり、その比重が0.9を超えると硬くなり過ぎて歩行感が悪くなったり、溝の切削加工性が悪くなる。

【0015】請求項2に係る発明は、木質基板の表面に表面化粧層が設けられ且つ該表面化粧層の表面に開口した切削加工による化粧目地溝を有する木質化粧床材であって、前記木質基板は、少なくとも表面層が比重0.6以上0.9以下の木質繊維板によって構成され、前記化粧目地溝は、略平坦に形成された底面と、該底面より立ち上がった相対する側面とを備えるよう切削によって形成され、前記相対する側面は、前記底面から略垂直に立ち上がった相対する下側垂直部と、該下側垂直部に続いて溝幅が開口部に行くに従って漸次拡大するように外膨らみ曲面形状に形成された相対する上側曲面部とによって構成されていることを特徴とする。

【0016】従って、相対する上側曲面部によってソフトなデザイン感や歩行感を確保しながら、相対する下側垂直部によって平坦な底面の存在が強調され、且つ当該化粧目地溝の深み感がさらに得られる。

【0017】請求項3に係る発明は、請求項1又は請求項2記載の木質化粧床材において、前記化粧目地溝の底面が前記木質繊維板層に位置する、というものである。

【0018】すなわち、木質繊維板は、緻密で木質繊維がランダムに配向した均質な材料であるため、合板を切削加工した場合とは違って、化粧目地溝の側面や底面は粗面やささくれ面とならず、平滑な外観になる。

【0019】請求項4に係る発明は、請求項1乃至請求項3のいずれか一に記載の木質化粧床材において、前記木質基板が、板状基材表面に前記木質繊維板を積層一体化したものであり、該木質繊維板の厚さが1.0mm以上2.5mm以下である、というものである。

【0020】上記の構成の場合、化粧目地溝をその底面が木質化粧板の部分に位置するように形成することが容易になり、また、床材表面の硬度確保にも有利になる。しかも、板状基材の表面側にのみ木質繊維板を積層する

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場合でも（板状基材の裏面側には木質繊維板を設けない場合でも）、床材の反りを招き難い。

【0021】なお、木質繊維板の厚みが1.0mm未満となると、木質繊維板に期待する硬さを得ることが難しくなり、その厚みが2.5mmを超えると、木質繊維板とそれが接合される板状基材の材料特性の違いによって、反り等の不具合が発生し易くなる。

【0022】請求項5に係る発明は、請求項3又は請求項4記載の木質化化粧床材において、前記木質繊維板の少なくとも前記化粧目地溝が形成された部位には合成樹脂液が含まれ硬化してなる耐水強化層が形成され、前記化粧目地溝の底面及び相対する側面が前記耐水強化層によって構成されている、というものである。

【0023】上記の構成の場合、合成樹脂液によって防水効果が得られ、水をこぼした場合にも、木質繊維板が吸水あるいは吸湿により膨潤して外観が悪くなったり、木質繊維板の抽出成分が滲みとなって現出したりするのを抑制することができ、しかも、木質繊維板の化粧目地溝部分が強化される。もちろん、木質繊維板の全体に合成樹脂液を含浸させて硬化させてもよい。

【0024】請求項6に係る発明は、請求項1記載の木質化化粧床材において、前記表面化粧層が突板によって形成され、前記化粧目地溝の底面が前記突板内に位置する、というものである。

【0025】上記の構成の場合、床板表面に表面化粧層のみが現れ、表面に接合界面が露出することがないので、床にこぼれることがある水、その他の液体や熱等によって表面化粧層が局部的に剥離することが防止され、床板の耐久性の向上に有利になるとともに、床材表面と化粧目地溝の側面、底面とが同一材料からなるため、一体感・高級感に優れた外観を形成することができる。

【0026】請求項7に係る発明は、請求項1乃至請求項6のいずれかに記載の発明において、前記表面化粧層が、合成樹脂液が含まれ硬化してなる合成樹脂強化突板によって形成されている、というものである。

【0027】上記の構成の場合、表面化粧層を構成する突板に合成樹脂液が含まれ硬化しているため、床表面の耐摩耗性や耐汚染性を向上させるうえで有利になるとともに、化粧目地溝部分では合成樹脂の防水効果によって、その部分から吸水することが抑えられる。特に、請求項6記載の木質化化粧床材のように、化粧目地溝が合成樹脂強化突板の範囲内に形成されているものでは、上記高吸湿と相俟って化粧目地溝部分の膨潤や汚染等による外観低下を一層抑制することができる。

【0028】請求項8に係る発明は、請求項1乃至請求項7のいずれかに記載の木質化化粧床材において、前記化粧目地溝は、溝底部の溝幅が0.3mm以上1.0mmの範囲にあり、溝開口幅が2.0mm以上5.0mm以下の範囲にあり、溝深さが0.4mm以上1.5mm以下の範囲にある、というものである。

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【0029】上記の構成の場合、上記範囲に化粧目地溝の形態を限定しているため、木質化粧床材としての好適な諸性質を維持しつつ、外観の良い木質化粧床材を提供することができる。すなわち、溝底部の溝幅が0.3mm未満となると、略平坦な底面の存在による化粧目地溝の深み感・張開感が乏しくなり、また、切削加工が困難になって生産性が低下するため好ましくない。他方、溝底部の溝幅が1.0mmより大きくなると、溝が開きすぎになって歩行時に足裏に違和感を与え易くなるとともに、外観的にも好ましくない。また、溝開口幅が2.0mm未満となるとソフトなデザイン感を与え難くなるので外観上好ましくない。他方、溝開口幅が5.0mmを超えると歩行感が悪くなる（足裏に違和感を与える）とともにのっぺりとした装飾性の低い外観となり好ましくない。さらに、溝の深さは0.4mm未満となると、化粧目地溝が目立たなくなって装飾性が低下するので好ましくない。他方、溝の深さが1.5mm以上と深くなりすぎても床板としては、違和感を生じたり、掃除が困難となったり、床としての強度が低下したりすることがあるので好ましくない。

【0030】請求項9に係る発明は、互いの側面が突き合わされる複数の床材からなり、前記各床材は、請求項1乃至請求項8のいずれかに記載された木質化化粧床材よりなり、前記相隣る床材の相対する上縁は角が落とされて外膨らみ曲面形状の丸みが付けられ、前記各床材の少なくとも一方には、前記丸み部分と、該部分よりも下側の相手側床材に当接する突き合わせ面との間に略平坦な段部が形成されていることを特徴とする木質化化粧床材の組合せ、というものである。

【0031】上記の構成の場合、木質化粧床板同士を連結した際に、その連結部に木質化粧床材表面に設けられた化粧目地溝と同じ形状の目地溝が形成される。

【0032】

【発明の効果】以上説明したように、請求項1の発明によると、木質基板の少なくとも表面層が比重0.6以上0.9以下の木質繊維板によって構成され、該木質繊維板の表面に表面化粧層が形成され、該表面化粧層の表面に開口する化粧目地溝が、略平坦に形成された底面と、該底面より立ち上がった外膨らみ曲面形状の相対する側面とを備えるよう切削によって形成されているから、ソフトなデザイン感や歩行感を確保しながら、当該化粧目地溝に深み感と張開感を与えることができ、木質化粧床材の装飾性の向上に有利になるとともに、木質化粧床材の品質の向上及び生産性の向上にも有利になり、しかも、床材表面に適度な硬度が付与され、床表面の傷付き防止に有利になる。

【0033】請求項2の発明によると、前記化粧目地溝の相対する側面が、略平坦な底面から略垂直に立ち上がった相対する下側垂直部と、該下側垂直部に挟いて溝幅が開口部に行くに従って漸次拡大するように外膨らみの

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曲面形状に形成された相対する上側端面部とによって構成されているから、ソフトなデザイン感や歩行感を確保しながら、当該化粧目地溝の深み感がさらに得られる。

【0034】請求項3の発明によると、前記化粧目地溝の底面が前記木質繊維板層に位置するから、化粧目地溝の側面や底面は粗面やささくれ面とならず、平滑な面に形成することが容易になり、品質及び外観を良好なものにするうえで有利になる。

【0035】請求項4の発明によると、前記木質基板が、板状基材表面に前記木質繊維板を接着一体化したものであり、該木質繊維板の厚さが1.0mm以上2.5mm以下であるから、化粧目地溝をその底面が木質化粧板の部分に位置するように形成することが容易になるとともに、床材の反り防止に有利になる。

【0036】請求項5の発明によると、前記木質繊維板の化粧目地溝の底面及び相対する側面が合成樹脂による耐水強化層によって構成されているから、木質繊維板の化粧目地溝部分を強化しながら、防水性を高めることができ、木質繊維板の水による膨潤や、木質繊維板の抽出成分の滲み防止され、品質及び外観の向上に有利になる。

【0037】請求項6の発明によると、前記表面化粧層が突板によって形成され、前記化粧目地溝の底面が前記突板内に位置するから、水、その他の液体や熱等によって表面化粧層が局部的に剝離することが防止され、床板の耐久性の向上に有利になるとともに、外観も良好なものとなる。

【0038】請求項7の発明によると、前記表面化粧層が、合成樹脂液が含浸し硬化してなる合成樹脂強化突板によって形成されているから、床表面の耐摩耗性や耐汚染性を向上させるうえで有利になるとともに、防水性にも有利になる。

【0039】請求項8の発明によると、前記化粧目地溝は、溝底部の溝幅が0.3mm以上1.0mmの範囲にあり、溝開口幅が2.0mm以上5.0mm以下の範囲にあり、溝深さが0.4mm以上1.5mm以下の範囲にあるから、木質化粧床材としての好適な諸性質を維持しつつ、外観の良い木質化粧床材を提供することができる。

【0040】請求項9の発明によると、互いの側面が突き合わされる床材が請求項1乃至請求項8のいずれかに記載された木質化粧床材よりなり、相隣る床材の相対する上縁は角が削とされて外膨らみ曲面形状の丸みが付けられ、該両床材の少なくとも一方には、前記丸み部分と突き合わせ面との間に略平坦な段部が形成されているから、木質化粧床板同士を連結した際に、その連結部に木質化粧床材表面に設けられた化粧目地溝と同じ形状の目地溝が形成され、床材同士が連結されていることが外観上判別し難いものになり、外観の向上に有利になる。

【0041】

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【発明の実施の形態】（実施形態1）図1は本実施形態に係る木質化粧床材Aの平面図であり、同図において、1は木質化粧床材Aの表面に形成された縦横に延びる化粧目地溝、4は表面化粧層である。図2に示すように、この木質化粧床材Aは、合板による板状基材2の表面に木質繊維板3を接着して構成される木質基板を備えており、この木質基板の木質繊維板3側の表面には突板が接着されて表面化粧層4が形成されている。また、表面化粧層4表面には、木質化粧床材Aの長手方向に平行な1本以上の化粧目地溝1が設けられている。

【0042】さらに、板状基材は、複数の木質化粧床材A同士を連結することができるように、一方の側面には雄突部5を備え、他方の側面には雌突部6を備えている。そして、複数の木質化粧床材A同士を連結したときに、その連結部に、前記の表面化粧層4の表面に設けられた化粧目地溝1と同一の溝が形成されるように雄突部5側の上縁部7及び雌突部6側の上縁部8は面取り加工がなされている。

【0043】前記木質繊維板3は、比重0.6～0.9、厚さが1.0～2.5mm（板状基材2の1/3～1/5程度の厚さ）のものであり、前記接着加工前に、材料全体を不飽和ポリエステル系樹脂液、ウレタン系樹脂液等の合成樹脂液に浸漬して含浸させたり、上記合成樹脂液を材料面に塗布して材料内に浸透含浸させ、硬化させる処理を施すことが好ましい。前記表面化粧層4を構成する突板は、厚さ0.2～3mmのものであり、前記接着加工前に、材料全体を不飽和ポリエステル系樹脂液、ウレタン系樹脂液等の合成樹脂液に浸漬・含浸させたり、上記合成樹脂液を突板に塗布して突板内に浸透含浸させ、硬化させる処理を施すことが好適である。前記木質繊維板3として、例えば厚さ1.3mm、比重0.78の中密度繊維板（MDF）を用いるとき、前記突板として0.4mmのものを用いるようにすればよい。

【0044】図3は、木質化粧床材Aの長手方向に垂直な断面における化粧目地溝1の拡大図を示す。この化粧目地溝1は、略平坦に形成された底面12と、該底面12から開口部に行くに従って溝幅が漸次拡大するように外膨らみの曲面に形成された相対する側面11、11とを備える。そして、側面11の一部と底面12は、木質繊維板3の層に位置している。また、表面化粧層4の表面及び化粧目地溝1の内面には例えばウレタン系合成樹脂透明塗料による塗装が連続して施されて塗膜13が形成されている。

【0045】前記化粧目地溝1は、底面12の幅が0.3～1.0mm、溝上縁の開口幅が2.0～5.0mm、溝深さが0.4～1.5mmであり、例えば、底面12の幅が0.8mm、溝上縁の開口幅が2.5mm、溝の深さが0.7mmになるよう切削加工される。

【0046】前記化粧目地溝1の切削加工には、組み合わせたカッター、砥、ルーター等の切削具が用いられる。

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図4は切削加工例を示すものであり、上記塗装を施す前にカッター14によって表面化粧層4の表面から木質繊維板3に達する溝を形成し、その後、必要に応じてサンディング等により表面平滑処理が施されて塗装がなされる。

〔0047〕また、雌実部5の上縁部8には、図5に示すように、表面化粧層4の上面より円弧状の曲線を描いて下傾斜した外膨らみ曲面形状の丸み15が付付けられ、さらに隣の木質化粧床材Aの側端面と当接する突き合わせ面16と、丸み15との間に略平坦な段部17が形成されている。丸み15は前記化粧目地溝1の側面11と同じ形状であり、段部17は前記化粧目地溝1の底面12と同じ幅に形成されている。一方、図6に示すように、雄実部5の上縁部7には前記化粧目地溝1の側面11と同じ形状となるように表面化粧層4の上面より円弧状の曲線を描いて下傾斜した外膨らみ曲面形状の丸み15が形成され、該丸み15の下縁が隣の木質化粧床材Aの側端面と当接する突き合わせ面16に接している。段部は形成されていない。

〔0048〕上記雌実部6側の丸み15及び段部17は、図7に示すように丸み15及び段部17を切削加工するためのカッター18と、段部17の縁を切削加工するカッター19とを組合せて形成することができる。

〔0049〕従って、図8に示すように、木質化粧床材Aの雄実部5と隣の木質化粧床材Aの雌実部6とを連結すると、当該連結部に表面化粧層4の表面に形成された化粧目地溝1と同じような化粧目地溝10が前記丸み15、15及び段部17によって形成されることになる。

〔0050〕また、本実施形態に用いられる薄い中密度木質繊維板（例えば厚さ1.3mm程度のもの）を安定して製造することは一般には難しいが、分割方式によって、そのような薄い木質繊維板を得ることができる。すなわち、それは、必要厚さの2倍以上の厚みのある木質繊維板を製造してこれを板面と平行に二分割し、これを台板等の板状基材2の表面に接着した後、必要に応じて所要の厚みとなるまで表面をサンディングして薄い木質繊維板3の層を形成する、というものである。例えば、厚さ3mmの木質繊維板を厚さ1.5mmとなるように二分割し、サンディングによってその厚さ1.3mmとすることになる。

〔0051〕なお、分割前の木質繊維板は、表面層及び裏面層の密度が芯層（内部）よりも高くなっていることが多いから、分割された木質繊維板は、分割面の密度が反対側の面の密度よりも低くなっている場合がある。この場合、原則的にはいずれの面を板状基材2に接着してもよいが、密度の高い面が表になるようにすれば（すなわち、密度の低い面が接着面になるようにすれば）、表面の硬い木質基材を得ることができ、床材としては有利になる。

〔0052〕以上のように、前記木質化粧床材Aの表面

に形成された化粧目地溝1は、外膨らみの曲面形状を有する側面11と略平坦な底面12とによって構成されているから、ソフトなデザイン感や歩行感が得られるとともに、滑り感ないしは蹴込み感が得られ、木質化粧床材Aの装飾性を向上させる。また、表面化粧層4の直下には、中密度の木質繊維板3が存在しているので、床表面に適度な硬度が付与され、落下物等による傷ないしは凹みを生じ難い。しかも、この木質繊維板3の厚さは板状基材2の1/4～1/5程度の薄いものであるため、該板状基材2への接着によって反りを生ずることがない。

〔0053〕また、木質繊維板3及び表面化粧層（突板）4は、ウレタン系樹脂塗料の含浸処理が施されているので、化粧目地溝1の部位の防水性が高くなるとともに、木質繊維板3の抽出成分が滲みとなって現出したり、膨潤して外観が悪くなったりすることがない。

〔0054〕また、化粧目地溝1は略平坦な底面を有する構成であるから、切削具の先端を鋭利にする必要がなく、従って、加工時における刃先の損傷が少なくなる。しかも、この化粧目地溝1の側面11の一部及び底面12は、木繊維がランダムに配向した緻密で均質性の高い木質繊維板3によって構成されているため、切削によって粗面やささくれ面とならず、平滑で良好な表面加工状態とすることができ、加工性ないしは生産性が良い。

〔0055〕しかも、木質化粧床材A、A同士の連結部には、表面化粧層4表面の化粧目地溝1と同様の化粧目地溝10が形成されるから、木質化粧床材A、A同士の連結を認識し難い。

〔0056〕（実施形態2）図9は実施形態2に係る木質化粧床材Bを長手方向に垂直な断面で示すものである。本形態は、化粧目地溝1の側面11が、平坦な底面12より垂直に立ち上がった相対する下側垂直部11a、11aと、該下側垂直部11a、11aに横いて溝幅が開口部に行くに従って漸次拡大するように外膨らみの曲面形状に形成された相対する上側曲面部11b、11bとによって構成されている点に特徴があり、他は実施形態1と実質的には同じである。

〔0057〕従って、本形態の場合は、相対する上側曲面部11b、11bによってソフトなデザイン感や歩行感を確保しながら、相対する下側垂直部11a、11aによって平坦な底面12の存在が強調され、且つ当該化粧目地溝1の深み感がさらに得られる。

〔0058〕（実施形態3）図10は実施形態3に係る木質化粧床材Cを長手方向に垂直な断面で示すものである。本形態は、木質基材が木質繊維板3の単独で構成されている点に特徴があり、他の構成は実施形態1又は実施形態2と実質的には同じであり、同様の効果が得られる。但し、その化粧目地溝1は側面に下側垂直部のない実施形態1のものと同様に形成するようにしてもよい。

〔0059〕（実施形態4）図11は実施形態4に係る木質化粧床材Dを長手方向に垂直な断面で示すものであ



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る。本形態は、表面化粧層4を厚い突板によって形成し、化粧目地溝1の底面が表面化粧層4に位置していることを特徴とするものであり、他の構成は実施形態1又は実施形態2と実質的には同じである。但し、その化粧目地溝1は側面に下側垂直部のない実施形態1のものと同様に形成するようにしてもよい。

【0060】従って、本形態の場合は化粧目地溝1の側面及び底面の全てが同じ材料（突板）によって構成されているから、一体感ないしは高級感が得られる。

【0061】（実施形態5）図12は実施形態5に係る木質化粧床材Eを長手方向に垂直な断面で示すものである。本形態は、木質基板が合板等による板状基材2と、該板状基材2の表裏両面に接着された木質繊維板3、3とによって構成された点に特徴があり、他の構成は実施形態4と実質的には同じである。但し、その化粧目地溝1は側面に下側垂直部のない実施形態1のものと同様に形成するようにしてもよい。

【0062】表裏の木質繊維板3、3は、上述の分割方式によって得られた厚さ1、5mm程度のものであり、その密度が高い硬質面が表面又は裏面となるように板状

基材2に接着されている。

【0063】従って、本形態の場合は、表裏の木質繊維板3、3によって木質化粧床材Eの反りが相殺され、平坦性を確保し得ることができるとともに、表面の硬度が高くなるから、落下物等による凹みの発生を防止するうえでも有利になる。

【0064】（実施形態6）図13は実施形態6に係る木質化粧床材Fを長手方向に垂直な断面で示すものである。本形態は、木質基板の板状基材2がその底面に開口する複数の切り溝21を備えているとともに、該底面にクッション材22が接着されている点に特徴があり、前記複数の切り溝21は、床材幅方向に間隔を置いて床材長手方向に延びている。他の構成は実施形態1又は実施形態2と実質的には同じである。但し、その化粧目地溝1は側面に下側垂直部のない実施形態1のものと同様に形成するようにしてもよい。

【0065】従って、本形態の場合は、床材表面の硬度を木質繊維板3によって確保しながら、床材全体をクッション性のあるものにすることができる。なお、上記切り溝21及びクッション材22のうちのいずれか一方のみを設ける場合もある。

【0066】（その他）上記実施形態5では板状基材2の裏面に木質繊維板3を接着して床材の反りを確実に抑えるようにしたが、板状基材2の表面に木質繊維板3を接着する場合には、裏面に木質裏打ち単板を接着するようにしてもよい。

【0067】板状基材としては、合板の他、単板積層材（LVL）、単板積層板（LVB）、パーティクルボード、ストランドボード、集成材等を用いることができ、特に限定されるものではない。

【0068】また、表面化粧層4としては、突板の他、木目模様等を印刷した化粧紙、メラミン樹脂等の合成樹脂を含浸させた化粧紙、木質基板表面へのダイレクト印刷層等を採用することができ、特に限定されるものではない。突板を用いる場合、合成樹脂液を含浸・硬化させたものが好ましいが、そのような処理を施さないものであってもよい。

【0069】表面化粧層4だけでは床材としての表面保護性が十分でない場合、表面化粧層4や化粧目地溝1の内面に、透明あるいは着色半透明性の合成樹脂系塗料を一回ないしは複数回塗布して表面保護層を設けてもよい。このような合成樹脂系塗料としては、ウレタン系樹脂、アクリル系樹脂、アクリルウレタン系樹脂、アミノアルキッド樹脂等を挙げることができ、特に限定されるものではない。

【0070】また、寄せ木調の床材の場合には、寄せ木のピース同士の継ぎ目を表現する部分に化粧目地溝1を設けてもよい。さらに、木質化粧床材表面に形成される化粧目地溝1の数は特に限定されるものでなく、木質化粧床材の大きさにあわせて適宜設けられるものである。また、化粧目地溝1は床材表面に直線的に設けられるものに限られず、ジグザグ模様や波形状模様を形成するものであってもよく、特に限定されるものではない。

【0071】また、木質基板の化粧目地溝1を形成する部分に合成樹脂液を含浸・硬化させる方法としては、木質繊維板3や突板を事前に合成樹脂液へ浸漬含浸・硬化させておく方法のほか、化粧目地溝1を形成した後該化粧目地溝部分から合成樹脂液を含浸・硬化させる方法を採用することもできる。その合成樹脂としてはウレタン系樹脂、不飽和ポリエステル系樹脂以外のものであってもよい。

【0072】そして、複数の木質化粧床材を連結する方法としては、雄実部と雌実部とに限定されるものではなく、単なる突き合わせであってもよい。

【図面の簡単な説明】

【図1】実施形態1に係る木質化粧床材Aの平面図。

【図2】同木質化粧床材Aを一部断面にして示す斜視図。

【図3】同木質化粧床材Aの一部の拡大断面図。

【図4】同形態の化粧目地溝の切削加工状態を示す断面図。

【図5】同形態の雄実部上側の面取り部を示す断面図。

【図6】同形態の雌実部上側の面取り部を示す断面図。

【図7】同形態の雄実部上側の面取り加工状態を示す断面図。

【図8】同形態の相隣る木質化粧床材同士の連結部を示す断面図。

【図9】実施形態2に係る木質化粧床材Bの一部を示す断面図。

【図10】実施形態3に係る木質化粧床材Cの一部を示す

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す断面図。

【図11】実施形態4に係る木質化粧床材Dの一部を示す断面図。

す断面図。

【図12】実施形態5に係る木質化粧床材Eの一部を示す断面図。

す断面図。

【図13】実施形態6に係る木質化粧床材Fの一部を示す断面図。

す断面図。

【図14】従来例を示す断面図。

【図15】別の従来例を示す断面図。

【符号の説明】

1 化粧目地溝

\* 2 板状基材

3 木質繊維板

4 表面化粧層

5 雄表部

6 雌表部

7 雄表部側上縁部

8 雌表部側上縁部

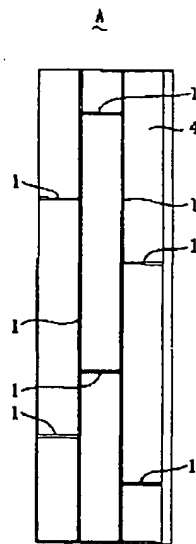
11 側面

11a 下側垂直部

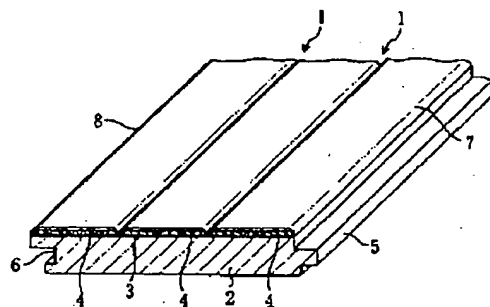
10 11b 上側垂直部

\*

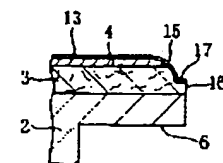
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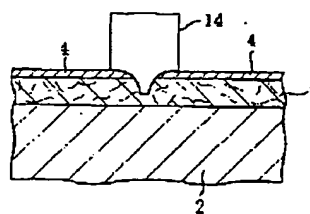
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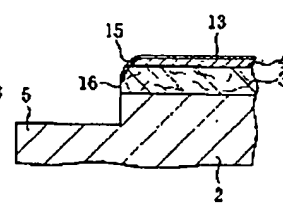
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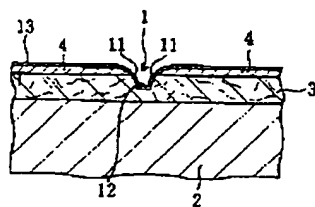
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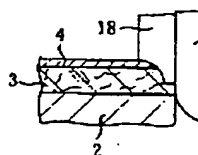
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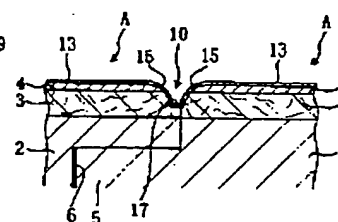
【図3】



【図7】



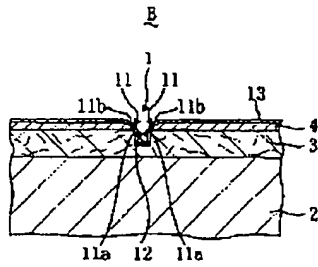
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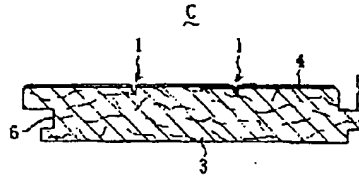
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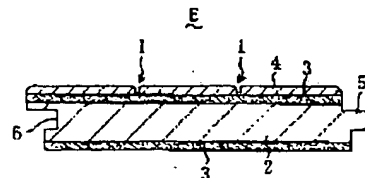
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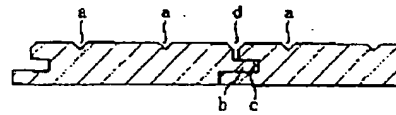
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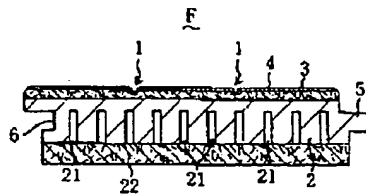
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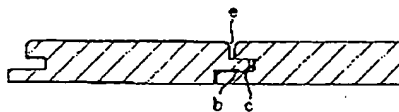
【図14】



【図13】



【図15】



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フロントページの続き

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GA05  
28260 AA03 AA05 AA07 AA11 AA12  
BA01 BA19 CB01 CB04 CD03  
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2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

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## EFFECT OF THE INVENTION

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[Effect of the Invention] A surface layer is constituted by the with an or more 0.6 specific gravity [ or less 0.9 ] woody fiber board, even if there is little woody substrate according to invention of a claim 1, as explained above. The base where the surface makeup layer was formed in the front face of this woody fiber board, and the pointing slot which carries out opening to the front face of this surface makeup layer was formed in abbreviation flatness, Securing a soft feeling of a design, and a feeling of a walk, since it is formed of cutting so that it may have the side in which the outside swelling curved-surface configuration where it started from this base faces While being able to give a feeling of depth, and a feeling of emphasis to the pointing slot concerned and becoming advantageous to improvement in the ornament nature of a woody makeup floor plate, it becomes advantageous also to the improvement in the quality of woody makeup flooring, and improvement in productivity, and moreover a moderate degree of hardness is given to a flooring front face, a floor front face gets damaged, and it becomes advantageous to prevention.

[0033] the side in which the aforementioned pointing slot faces according to invention of a claim 2 -- abbreviation -- with the bottom vertical section which started from the flat base to the abbreviation perpendicular and which faces The feeling of depth of the pointing slot concerned is obtained further, securing a soft feeling of a design, and a feeling of a walk, since it is constituted by the top curved-surface section which was formed in the curved-surface configuration of an outside swelling and which faces so that it may expand gradually as a flute width goes to opening following this bottom vertical section.

[0034] According to invention of a claim 3, it becomes advantageous, when the side and the base of a pointing slot turn into neither a split face nor a split side, but forming in a smooth field becomes easy and quality and appearance are made good, since the base of the aforementioned pointing slot is located in the aforementioned woody fiberboard layer.

[0035] According to invention of a claim 4, the aforementioned woody substrate carries out the adhesion unification of the aforementioned woody fiber board on a tabular base-material front face, and since the thickness of this woody fiber board is 1.0mm or more 2.5mm or less, while it becomes easy to form a pointing slot so that the base may be located in the portion of a woody panel, it becomes advantageous to curvature prevention of flooring.

[0036] According to invention of a claim 5, strengthening a part for the pointing slot of a woody fiber board, since the base and the side in which it faces of a pointing slot of the aforementioned woody fiber board are constituted by the waterproof strengthening layer by synthetic resin, waterproofness can be raised, a blot of the swelling by the water of a woody fiber board and the extraction component of a woody fiber board is prevented, and it becomes advantageous to improvement in quality and appearance.

[0037] Appearance will also become good, while according to invention of a claim 6 it is prevented that a surface makeup layer exfoliates locally and it becomes advantageous to improvement in the endurance of a floor plate with water, other liquids, heat, etc., since the aforementioned surface makeup layer is formed of a sliced veneer and the base of the aforementioned pointing slot is located in the aforementioned sliced veneer.

[0038] According to invention of a claim 7, the aforementioned surface makeup layer becomes advantageous also to waterproofness, while becoming advantageous when raising the abrasion resistance and the resistance to contamination on the front face of a floor since synthetic-resin liquid

is formed of the synthetic-resin strengthening sliced veneer which it sinks in and comes to harden. [0039] According to invention of a claim 8, the aforementioned pointing slot has the flute width of the groove bottom section in 0.3mm or more range it is [ range ] 1.0mm, slot opening width of face is in the range of 2.0mm or more 5.0mm or less, and the good woody makeup flooring of appearance can be offered, maintaining many suitable properties as woody makeup flooring, since a channel depth is in the range of 0.4mm or more 1.5mm or less.

[0040] According to invention of a claim 9, the flooring with which the mutual side is compared consists of woody makeup flooring indicated by any 1 of a claim 1 or the claims 8. An angle is dropped and, as for the upper limb which adjacency \*\*\*\*\* faces, the radius of circle of an outside swelling curved-surface configuration is attached. at least to one side of both this flooring between the aforementioned radius-of-circle portion and abutting surfaces -- abbreviation, since the flat step is formed When woody makeup floor plates are connected, the joint slot of the same configuration as the pointing slot established in the woody makeup flooring front face is formed in the connection section, it becomes what cannot carry out exterior distinction easily that flooring is connected, and it becomes advantageous to improvement in appearance.

[0041]

[Embodiments of the Invention] (Operation form 1) Drawing 1 is the plan of the woody makeup flooring A concerning this operation form, and the pointing slot where 1 was formed in the front face of woody makeup flooring A and which is prolonged in all directions, and 4 are surface makeup layers in this drawing. As shown in drawing 2, this woody makeup floor plate A is equipped with the woody substrate constituted by pasting up the woody fiber board 3 on the front face of the tabular base material 2 by the plywood, a sliced veneer pastes the front face by the side of the woody fiber board 3 of this woody substrate, and the surface makeup layer 4 is formed. Moreover, one or more pointing slots 1 parallel to the longitudinal direction of the woody makeup floor plate A are established in surface makeup layer 4 front face.

[0042] Furthermore, the tabular base material equipped one side with the male real part 5, and equips the side of another side with the female real part 6 so that two or more woody makeup flooring A can be connected. And when two or more woody makeup flooring A is connected, as for the upper-limb section 7 by the side of the male real part 5, and the upper-limb section 8 by the side of the female real part 6, beveling processing is made so that the same slot as the pointing slot 1 established in the front face of the aforementioned surface makeup layer 4 may be formed in the connection section.

[0043] Specific gravity 0.6 to 0.9 and the thickness of the aforementioned woody fiber board 3 are 1.0-2.5mm (thickness which is 1/3 of the tabular base material 2 - 1 / 5 grades) things. It is desirable to perform processing which flood with synthetic-resin liquid, such as unsaturated-polyester system resin liquid and urethane system resin liquid, and the whole material is infiltrated before the aforementioned adhesion processing, or applies the above-mentioned synthetic-resin liquid to a material side, is made to carry out to osmosis sink in into material, and is stiffened. The sliced veneer which constitutes the aforementioned surface makeup layer 4 is a thing with a thickness of 0.2-3mm, and it is suitable for it to perform processing which the whole material is immersed and infiltrated at synthetic-resin liquid, such as unsaturated-polyester system resin liquid and urethane system resin liquid, or applies the above-mentioned synthetic-resin liquid to a sliced veneer, is made to carry out to osmosis sink in into a sliced veneer, and is stiffened before the aforementioned adhesion processing. What is necessary is just to use a 0.4mm thing as the aforementioned sliced veneer as the aforementioned woody fiber board 3, when using the inside density fiberboard (MDF) of 1.3mm in thickness, and specific gravity 0.78.

[0044] Drawing 3 shows the enlarged view of the pointing slot 1 in a cross section perpendicular to the longitudinal direction of the woody makeup floor plate A. This pointing slot 1 is equipped with the base 12 formed in abbreviation flatness, and the sides 11 and 11 formed in the curved surface of an outside swelling so that a flute width might be gradually expanded as it goes to opening from this base 12 in which it faces. And the part and base 12 of the side 11 are located in the layer of the woody fiber board 3. Moreover, the paint for example, by the urethane system synthetic-resin transparent paint is continuously given to the front face of the surface makeup layer 4, and the inside of the pointing slot 1, and the paint film 13 is formed.

[0045] For the width of face of a base 12, the opening width of face of 0.3-1.0mm and a slot upper

limit is [ 2.0-5.0mm and the channel depth of the aforementioned pointing slot 1 ] 0.4-1.5mm, for example, cutting of the width of face of a base 12 is carried out so that the opening width of face of 0.8mm and a slot upper limit may be set to 2.5mm and the depth of flute may be set to 0.7mm.

[0046] Cutting implements, such as a combination cutter, a saw, and a router, are used for cutting of the aforementioned pointing slot 1. Drawing 4 shows the example of cutting, before it gives the above-mentioned paint, it forms the slot which reaches the woody fiber board 3 from the front face of the surface makeup layer 4 by the cutter 14, after that, surface data smoothing is given by sanding etc. if needed, and paint is made.

[0047] moreover, between the abutting surface 16 which the upper-limb section 8 of the female real part 5 is rounded [ of the outside swelling curved-surface configuration which drew the curve more nearly circular than the upper surface of the surface makeup layer 4, and carried out the downward inclination / 15 ], and contacts the side edge side of the next woody makeup flooring A further at it as shown in drawing 5, and radii of circle 15 -- abbreviation -- the flat step 17 is formed A radius of circle 15 is the same configuration as the side 11 of the aforementioned pointing slot 1, and the step 17 is formed in the same width of face as the base 12 of the aforementioned pointing slot 1. On the other hand, as shown in drawing 6, the radius of circle 15 of the outside swelling curved-surface configuration which drew the curve more nearly circular than the upper surface of the surface makeup layer 4, and carried out the downward inclination so that it might become the same configuration as the side 11 of the aforementioned pointing slot 1 is formed in the upper-limb section 7 of the male real part 5. The abutting surface 16 to which the soffit of this radius of circle 15 contacts the side edge side of the next woody makeup flooring A is followed, and the step is not formed.

[0048] The radius of circle 15 and step 17 by the side of the above-mentioned female real part 6 can be formed combining the cutter 18 for carrying out cutting of a radius of circle 15 and the step 17, as shown in drawing 7, and the cutter 19 which carries out cutting of the edge of a step 17.

[0049] Therefore, as shown in drawing 8, when the male real part 5 of woody makeup flooring A and the female real part 6 of the next woody makeup flooring A are connected, the pointing slot 1 formed in the front face of the surface makeup layer 4 and the same pointing slot 10 will be formed in the connection section concerned of the aforementioned radii of circle 15 and 15 and a step 17.

[0050] Moreover, although it is generally difficult to be stabilized and to manufacture a density woody fiber board (for example, thing with a thickness of about 1.3mm), while [ thin ] being used for this operation form, such a thin woody fiber board can be obtained with a division method.

Namely, it carries out sanding of the front face, and forms the layer of the thin woody fiber board 3 until it becomes necessary thickness if needed, after manufacturing the thick woody fiber board more than the double precision of required thickness, halving this to a plate surface and parallel and pasting this up on the front face of the tabular base materials 2, such as a plywood. For example, a woody fiber board with a thickness of 3mm will be halved so that it may become 1.5mm in thickness, and it will carry out to 1.3mm in the thickness by sanding.

[0051] In addition, as for the woody fiber board with which the woody fiber board before division was divided since the density of a surface layer and a rear-face layer was higher than a core layer (interior) in many cases, the density of a parting plane may have become lower than the density of the field of an opposite side. in this case, although the field which can creep in principle may be pasted up on the tabular base material 2, if it is made for a side with high density to become a table, and it is made for a side with low density to become an adhesion side namely,, a surface stiff wood quality substrate can be obtained and it will become advantageous as flooring

[0052] as mentioned above, the side 11 and abbreviation whose pointing slot 1 formed in the front face of the aforementioned woody makeup flooring A has the curved-surface configuration of an outside swelling -- since it is constituted by the flat base 12, while a soft feeling of a design and a feeling of a walk are obtained, a feeling of depth or a feeling of emphasis is obtained, and the ornament nature of the woody makeup floor plate A is raised Moreover, directly under the surface makeup layer 4, since the woody fiber board 3 of inside density exists, a moderate degree of hardness is given to a floor front face, and it is hard to produce the blemish or depression by the falling object etc. And the thickness of this woody fiber board 3 is 1/4 -1/5 of the tabular base material 2. Since a grade is thin, curvature is not produced by adhesion to this tabular base material

2.

[0053] Moreover, the extraction component of the woody fiber board 3 serves as a blot, and it appears, or the woody fiber board 3 and the surface makeup layer (sliced veneer) 4 are swollen while the waterproofness of the part of the pointing slot 1 is high, since sinking-in processing of urethane system resin liquid is performed, and appearance does not become bad.

[0054] moreover, the pointing slot 1 -- abbreviation -- since it is the composition of having a flat base, it is not necessary to make the nose of cam of a cutting implement sharp, therefore damage on the edge of a blade at the time of processing decreases And it is precise, and since [ in which the wood fiber carried out orientation at random ] it is constituted by the homogeneous high woody fiber board 3, the part and base 12 of the side 11 of this pointing slot 1 turn into neither a split face nor a split side by cutting, but can be made into a smooth and good surface treatment state, and processability or productivity is good [ a base ].

[0055] And since the pointing slot 1 of surface makeup layer 4 front face and the same pointing slot 10 are formed in the connection section of woody makeup flooring A and A, it is hard to recognize connection of woody makeup flooring A and A.

[0056] (Operation form 2) Drawing 9 shows the woody makeup floor plate B concerning the operation form 2 in a cross section perpendicular to a longitudinal direction. The bottom vertical sections 11a and 11a by which this form started from the base 12 where the side 11 of the pointing slot 1 is flat to the perpendicular and which face, The feature is in the point constituted by the top curved-surface sections 11b and 11b which were formed in the curved-surface configuration of an outside swelling, and which face so that it may expand gradually as a flute width goes to opening following these bottom vertical sections 11a and 11a, and others are substantially [ as the operation form 1 ] the same.

[0057] Therefore, in the case of this form, securing a soft feeling of a design, and a feeling of a walk by the top curved-surface sections 11b and 11b which face, existence of the flat base 12 is emphasized by the bottom vertical sections 11a and 11a which face, and the feeling of depth of the pointing slot 1 concerned is obtained further.

[0058] (Operation gestalt 3) Drawing 10 shows the woody makeup floor plate C concerning the operation gestalt 3 in a cross section perpendicular to a longitudinal direction. This gestalt has the feature in the point that the woody substrate consists of independent [ of the woody fiber board 3 ], other composition is substantially [ as the operation gestalt 1 or the operation gestalt 2 ] the same, and the same effect is acquired. However, you may make it form the pointing slot 1 like the thing of the operation gestalt 1 which does not have a bottom vertical section in the side.

[0059] (Operation gestalt 4) Drawing 11 shows the woody makeup floor plate D concerning the operation gestalt 4 in a cross section perpendicular to a longitudinal direction. This gestalt forms the surface makeup layer 4 by the thick sliced veneer, and is characterized by locating the base of the pointing slot 1 in the surface makeup layer 4, and other composition is substantially [ as the operation gestalt 1 or the operation gestalt 2 ] the same. However, you may make it form the pointing slot 1 like the thing of the operation gestalt 1 which does not have a bottom vertical section in the side.

[0060] Therefore, in the case of this gestalt, since all the sides of the pointing slot 1 and bases are constituted by the same material (sliced veneer), a sense of togetherness or a high-class feeling is obtained.

[0061] (Operation gestalt 5) Drawing 12 shows the woody makeup floor plate E concerning the operation gestalt 5 in a cross section perpendicular to a longitudinal direction. This gestalt has the feature in the point that the woody substrate was constituted by the tabular base material 2 by the plywood etc., and the woody fiber boards 3 and 3 pasted up on front reverse side both sides of this tabular base material 2, and other composition is substantially [ as the operation gestalt 4 ] the same. However, you may make it form the pointing slot 1 like the thing of the operation gestalt 1 which does not have a bottom vertical section in the side.

[0062] The woody fiber boards 3 and 3 of the front reverse side are things with a thickness of about 1.5mm obtained by the above-mentioned division method, and they are pasted up on the tabular base material 2 so that the hard side where the density is high may turn into a front face or a rear face.

[0063] Therefore, in the case of this gestalt, it becomes advantageous when preventing generating of



the depression by the falling object etc. since a surface degree of hardness becomes high, while the curvature of woody makeup flooring E is offset and being able to obtain flat nature certainly with the woody fiber boards 3 and 3 of the front reverse side.

[0064] (Operation gestalt 6) Drawing 13 shows the woody makeup floor plate F concerning the operation gestalt 6 in a cross section perpendicular to a longitudinal direction. This gestalt has the feature in the point which the cushioning material 22 has pasted up on this base while the tabular base material 2 of a woody substrate equips the base with two or more end slots 21 which carry out opening, and two or more aforementioned end slots 21 set the interval crosswise [ flooring ], and are prolonged in the flooring longitudinal direction. Other composition is substantially [ as the operation gestalt 1 or the operation gestalt 2 ] the same. However, you may make it form the pointing slot 1 like the thing of the operation gestalt 1 which does not have a bottom vertical section in the side.

[0065] Therefore, in the case of this gestalt, the whole flooring can be made into a thing with cushioning properties, securing the degree of hardness on the front face of flooring with the woody fiber board 3. In addition, only either the above-mentioned end slot 21 or the cushioning materials 22 may be prepared.

[0066] (in addition to this) When pasting up the woody fiber board 3 on the front face of the tabular base material 2, you may make it paste up the woody backing veneer on a rear face, although the woody fiber board 3 is pasted up on the rear face of the tabular base material 2 and the curvature of flooring was certainly suppressed with the above-mentioned operation gestalt 5.

[0067] As a tabular base material, laminated veneer lumber (LVL) besides a plywood, a veneer laminate (LVB), a particle board, a strand board, accumulation material, etc. can be used, and it is not limited especially.

[0068] Moreover, the direct printing layer to the tissue and the woody substrate front face into which the synthetic resin which printed the grain pattern besides a sliced veneer etc., such as a tissue and melamine resin, was infiltrated as a surface makeup layer 4 etc. can be adopted, and it is not limited especially. You may not perform such processing, although what sinks in and stiffened synthetic-resin liquid is desirable when using a sliced veneer.

[0069] the surface makeup layer 4 -- case the surface-protection nature as flooring is not enough -- the inside of the surface makeup layer 4 or the pointing slot 1 -- the synthetic-resin system paint of transparency or a coloring translucency -- 1 time -- or a multiple-times application may be carried out and a surface-protection layer may be prepared As such a synthetic-resin system paint, an urethane system resin, an acrylic resin, an acrylic urethane system resin, an amino alkyd resin, etc. can be mentioned, and it is not limited especially.

[0070] Moreover, you may establish the pointing slot 1 in the portion which expresses the joint of the piece of marquetry in the case of the flooring of a marquetry tone. Furthermore, especially the number of the pointing slots 1 formed in a woody makeup floor plate front face is not limited, and is suitably formed in accordance with the size of a woody makeup floor plate. Moreover, the pointing slot 1 is not restricted to what is linearly prepared in a floor plate front face, but may form neither a zigzag pattern nor a moire, and is not limited especially.

[0071] Moreover, after forming the pointing slot 1 besides [ which stiffens / stiffen and it immerse sinks / besides / in / the woody fiber board 3 and a sliced veneer to synthetic-resin liquid in advance ] a method in the portion which forms the pointing slot 1 of a woody substrate as a method of sinking in and stiffening synthetic-resin liquid, the method of sinking in and stiffening synthetic-resin liquid from a part for this pointing slot is also employable. As the synthetic resin, you may be things other than an urethane system resin and a unsaturated-polyester system resin.

[0072] and the thing limited to male real part and female real part as a method of connecting two or more woody makeup flooring -- it is not -- being mere -- you may compare and come out

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[Translation done.]

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DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[The technical field to which invention belongs] this invention relates to woody makeup flooring.

[0002]

[Description of the Prior Art] As shown in drawing 14, while carrying out beveling processing of the flooring upper-limb section aslant as woody makeup flooring, the thing in which the pointing slots a, such as the shape of V character, were formed on the flooring front face is known. In such woody makeup flooring, when the female real part b and the male real part c which were formed in the side edge side where adjacency \*\*\*\*\* makeup flooring faces are connected, the pointing slot a formed in the flooring front face and the same pointing slot d will be formed in the connection section front-face side of the above-mentioned beveling processing section. Thus, when the above-mentioned connection section stops having been conspicuous from presenting the same appearance as the pointing slot a on the front face of flooring and the whole floor is seen, sensibility which many woody makeup piece material has pasted up is given, and the pointing slot d of the connection section concerned is raising the ornament nature on the front face of a floor conjointly with the pointing slot a on the front face of flooring.

[0003] However, while the V character-like pointing slot a has an advantage of a plain-gauze cone in cutting, in order to make a feeling of a walk, and a soft feeling of a design appear, there is an inadequate point. For this reason, when the upper-limb section of woody makeup flooring is made into a curved-surface configuration and junction connection of the woody makeup flooring is carried out, it is also made that the joint slot e where the side in which it faced as shown in the connection section at drawing 15 became a curved-surface configuration is formed.

[0004]

[Problem(s) to be Solved by the Invention] However, although a soft feeling of a design and a feeling of a walk improve compared with a V character-like pointing slot in the case of the pointing slot of the aforementioned curved-surface configuration, when a soft feeling of a design appears on the other hand, a feeling of emphasis and a feeling of depth as a pointing slot will become thin. Although making a pointing slot deep was also considered, in the case of flooring, it was difficult for there to be a limitation, even though it forms a deep joint slot, and to raise ornament nature from a viewpoint of cleaning nature or intensity.

[0005] Moreover, as shown in drawing 15, even if it was comparatively easy to form the pointing slot of a curved-surface configuration by carrying out beveling processing of the upper-limb section of a woody makeup floor plate, when the front face of a woody makeup floor plate was processed and the pointing slot of a curved-surface configuration was formed, there were the following problems.

[0006] (1) It is possible to carry out die pressing and to carry out, applying heat with a press as the processing method. However, by this method, if it is at batch processing in every sheet, a colander is not obtained but productivity becomes very bad. Moreover, since only the near portion of a pointing slot turns precisely by condensation and internal stress is accumulated, if moisture is absorbed, it is going to blister and return and there is a fear of reducing the ornament nature of the pointing slot itself.

[0007] (2) After cutting with cutting implements, such as a cutter, a saw, and a router, as other

processing methods, the method which forms by performing sanding etc. is also considered. However, in the case of the pointing slot of a curved-surface configuration, the cutting implement of the slot cross-section configuration and the configuration where the similar edge-of-a-blade edge sharpened very much must be used, and it has the problem of being easy to damage the edge of a blade. Moreover, when polish repair of the cutting implement is carried out, the shape of a cutting tooth form is changeable, and there is un-arranging [ that it is difficult to maintain quirk-like precision ]. Even if it makes it sanding, after beveling the upper-limb section of a woody makeup floor plate, even if the thing of the grade which unlike the case where carry out sanding and a form is prepared makes a cutting side smooth since it is sanding of a cutting slot can be performed, it is difficult to make the pointing slot of a beautiful curved-surface configuration to the cutting slot.

[0008] (3) Moreover, if a pointing slot is formed by cutting when a plywood is used as a woody substrate, it will be finished, even if a split face with the porous main part of a plywood may be exposed to pointing Mizouchi, or it may produce a split and it paints in that case, and appearance will not become good. Especially, in the case of the pointing slot of a curved-surface configuration, such surface discontinuity tends to be conspicuous, and it becomes disadvantageous for improvement in ornament nature. Furthermore, when using a plywood as a woody substrate, surface hardness may be insufficient and there is also a problem that a blemish becomes easy to be attached to a surface makeup layer, such as producing a blemish by the wagon with an axle-pin rake, or producing the fall marks of an object.

[0009] That is, the technical problem of this invention is to offer the woody makeup flooring which solved the problem like \*\*\*\*.

[0010]

[Means for Solving the Problem] Invention of this application has solved the above-mentioned technical problem by [ of a woody substrate ] the woody fiber board of predetermined specific gravity constituting a surface layer at least, and adding a device to the configuration of a pointing slot.

[0011] Namely, invention concerning a claim 1 is woody makeup flooring which has a pointing slot by cutting which the surface makeup layer was prepared in the front face of a woody substrate, and carried out opening to the front face of this surface makeup layer. As for the aforementioned woody substrate, a surface layer is constituted by the with an or more 0.6 specific gravity [ or less 0.9 ] woody fiber board at least. the aforementioned pointing slot It is characterized by being formed of cutting so that it may have the base formed in abbreviation flatness, and the side formed in the outside swelling curved surface so that a flute width might be gradually expanded as it goes to opening from this base in which it faces.

[0012] since the base on which the side of the outside swelling curved-surface configuration where a pointing slot faces became abbreviation flatness is followed with such invention, while securing a soft feeling of a design, and a feeling of a walk -- the above -- by existence of a flat base, it becomes easy to give a feeling of depth and a feeling of emphasis to the pointing slot concerned, and it becomes advantageous to improvement in the ornament nature of a woody makeup floor plate

[0013] Moreover, it is not necessary to use for cutting of this pointing slot the cutting implement with which the edge of a blade sharpened sharp, and the irregular problem of the shape of a quirk accompanying repair of the chip of the edge of a blade or the edge of a blade is solved, moreover, since it is cutting, a hot press does not need to be used for the base of a pointing slot being formed in abbreviation flatness, and it becomes advantageous also to the improvement in quality, and improvement in productivity.

[0014] Furthermore, since the bottom of a surface makeup layer is constituted by the with an or more 0.6 specific gravity [ or less 0.9 ] woody fiber board, the moderate degree of hardness as flooring is given, the floor front face by the wagon with an axle-pin rake or the falling object gets damaged, and it becomes advantageous to prevention. if the specific gravity of a woody fiber board becomes less than 0.6 -- the degree of hardness on the front face of flooring -- running short -- the above -- if the specific gravity exceeds 0.9, it will become inadequate for protection from a falling object etc., and it becomes hard too much, and a feeling of a walk will become bad or the machinability of a slot will become bad

[0015] Invention concerning a claim 2 is woody makeup flooring which has a pointing slot by

cutting which the surface makeup layer was prepared in the front face of a woody substrate, and carried out opening to the front face of this surface makeup layer. the aforementioned woody substrate A surface layer is constituted by the with an or more 0.6 specific gravity [ or less 0.9 ] woody fiber board at least. the aforementioned pointing slot It is formed of cutting and the aforementioned side which carries out relatively so that it may have the base formed in abbreviation flatness, and the side which started from this base and which faces It is characterized by being constituted by the bottom vertical section which started from the aforementioned base to the abbreviation perpendicular and which faces, and the top curved-surface section which was formed in the curved-surface configuration of an outside swelling so that it might expand gradually as a flute width goes to opening following this bottom vertical section and which faces.

[0016] Therefore, securing a soft feeling of a design, and a feeling of a walk by the top curved-surface section which faces, existence of a flat base is emphasized by the bottom vertical section which faces, and the feeling of depth of the pointing slot concerned is obtained further.

[0017] The base of the aforementioned pointing slot is located in the aforementioned woody fiberboard layer in woody makeup flooring according to claim 1 or 2 by invention concerning a claim 3.

[0018] That is, a woody fiber board is precise, and since it is a homogeneous material in which woody fiber carried out orientation at random, unlike the case where cutting of the plywood is carried out, the side and the base of a pointing slot turn into neither a split face nor a split side, but become smooth appearance.

[0019] In woody makeup flooring according to claim 1 to 3, the aforementioned woody substrate carries out the adhesion unification of the aforementioned woody fiber board on a tabular base-material front face, and the thickness of this woody fiber board of invention concerning a claim 4 is 1.0mm or more 2.5mm or less.

[0020] In the above-mentioned composition, it becomes easy to form a pointing slot so that the base may be located in the portion of a woody panel, and it becomes advantageous also to the degree-of-hardness reservation on the front face of flooring. And even when pasting up a woody fiber board only on the front-face side of a tabular base material, it is hard to cause the curvature of flooring (even when not forming a woody fiber board in the rear-face side of a tabular base material).

[0021] In addition, if it becomes difficult to obtain the hardness expected to a woody fiber board if the thickness of a woody fiber board is set to less than 1.0mm and the thickness exceeds 2.5mm, it will become easy to generate faults, such as curvature, by the difference in the material property of the tabular base material which a woody fiber board and it paste up.

[0022] In woody makeup flooring according to claim 3 or 4, the waterproof strengthening layer which synthetic-resin liquid sinks into the part of the aforementioned woody fiber board in which the aforementioned pointing slot was formed at least, and it comes to harden is formed by the aforementioned waterproof strengthening layer, and the base and the side in which it faces of the aforementioned pointing slot are constituted by invention concerning a claim 5.

[0023] When in the above-mentioned composition the waterproofing effect is acquired and water etc. is spilt by synthetic resin, a woody fiber board swells according to water absorption or moisture absorption, it can suppress appearance becoming bad, or the extraction component of a woody fiber board serving as a blot, and appearing, and, moreover, a part for the pointing slot of a woody fiber board is strengthened. Of course, the whole woody fiber board may infiltrate synthetic-resin liquid, and you may make it harden.

[0024] In woody makeup flooring according to claim 1, the aforementioned surface makeup layer is formed of a sliced veneer by invention concerning a claim 6, and the base of the aforementioned pointing slot is located in the aforementioned sliced veneer.

[0025] Since in the above-mentioned composition only a surface makeup layer appears in a floor plate front face and an adhesion interface is not exposed to a front face While it is prevented that a surface makeup layer exfoliates locally and it becomes advantageous to improvement in the endurance of a floor plate with the water which may fall to the floor, other liquids, heat, etc. Since a flooring front face, and the side of a pointing slot and a base consist of the same material, the appearance excellent in a sense of togetherness and the high-class feeling can be formed.

[0026] In invention according to claim 1 to 6, the aforementioned surface makeup layer is formed by

invention concerning a claim 7 of the synthetic-resin strengthening sliced veneer which synthetic-resin liquid sinks in and it comes to harden.

[0027] While becoming advantageous when raising the abrasion resistance and the resistance to contamination on the front face of a floor since synthetic-resin liquid has sunk in and hardened to the sliced veneer which constitutes a surface makeup layer in the above-mentioned composition, in a part for a pointing slot, absorbing water from the portion is suppressed according to the waterproofing effect of synthetic resin. Especially, a pointing slot can suppress further the appearance fall by the swelling for a pointing slot, contamination, etc. conjointly with a high-class feeling of the above like woody makeup flooring according to claim 6 by what is formed within the limits of the synthetic-resin strengthening sliced veneer.

[0028] In invention concerning a claim 8, in woody makeup flooring according to claim 1 to 7, the aforementioned pointing slot has the flute width of the groove bottom section in 0.3mm or more range it is [ range ] 1.0mm, slot opening width of face is in the range of 2.0mm or more 5.0mm or less, and a channel depth is in the range of 0.4mm or more 1.5mm or less.

[0029] The good woody makeup flooring of appearance can be offered maintaining many suitable properties as woody makeup flooring, since the form of a pointing slot is limited to the above-mentioned range in the above-mentioned composition. namely, -- if the flute width of the groove bottom section is set to less than 0.3mm -- abbreviation -- since the feeling of depth and the feeling of emphasis of the pointing slot by existence of a flat base become scarce, and cutting becomes difficult and productivity falls, it is not desirable. On the other hand, if the flute width of the groove bottom section becomes larger than 1.0mm, while a slot's becoming opening too much and becoming easy to give sense of incongruity to the sole at the time of a walk, it is not desirable in appearance. moreover -- since it will be hard coming to give a soft feeling of a design if slot opening width of face is set to less than 2.0mm -- an exterior -- it is not desirable on the other hand -- if slot opening width of face exceeds 5.0mm -- a feeling of a walk -- bad -- becoming (sense of incongruity being given to the sole) -- it becomes the low appearance of smooth ornament nature and is not desirable. Furthermore, if set to less than 0.4mm, since a pointing slot will stop being conspicuous and ornament nature will fall, the depth of flute is not desirable. On the other hand, since sense of incongruity may be produced, cleaning may become difficult or the intensity as a floor may fall as a floor plate even if the depth of flute becomes deep too much with 1.5mm or more, it is not desirable.

[0030] Invention concerning a claim 9 consists of two or more flooring with which the mutual side is compared. each aforementioned flooring It consists of woody makeup flooring indicated by any 1 of a claim 1 or the claims 8, and an angle is dropped and, as for the upper limb which the aforementioned adjacency \*\*\*\*\* faces, the radius of circle of an outside swelling curved-surface configuration is attached. at least to one side of both the aforementioned flooring The aforementioned radius-of-circle portion, between the abutting surfaces which contact the other party flooring below this portion -- abbreviation -- it is called the combination of the woody makeup flooring characterized by forming the flat step

[0031] When woody makeup floor plates are connected in the above-mentioned composition, the joint slot of the same configuration as the pointing slot established in the woody makeup flooring front face is formed in the connection section.

[0032]

[Effect of the Invention] A surface layer is constituted by the with an or more 0.6 specific gravity [ or less 0.9 ] woody fiber board, even if there is little woody substrate according to invention of a claim 1, as explained above. The base where the surface makeup layer was formed in the front face of this woody fiber board, and the pointing slot which carries out opening to the front face of this surface makeup layer was formed in abbreviation flatness, Securing a soft feeling of a design, and a feeling of a walk, since it is formed of cutting so that it may have the side in which the outside swelling curved-surface configuration where it started from this base faces While being able to give a feeling of depth, and a feeling of emphasis to the pointing slot concerned and becoming advantageous to improvement in the ornament nature of a woody makeup floor plate, it becomes advantageous also to the improvement in the quality of woody makeup flooring, and improvement in productivity, and moreover a moderate degree of hardness is given to a flooring front face, a floor front face gets damaged, and it becomes advantageous to prevention.

[0033] the side in which the aforementioned pointing slot faces according to invention of a claim 2 -- abbreviation -- with the bottom vertical section which started from the flat base to the abbreviation perpendicular and which faces The feeling of depth of the pointing slot concerned is obtained further, securing a soft feeling of a design, and a feeling of a walk, since it is constituted by the top curved-surface section which was formed in the curved-surface configuration of an outside swelling and which faces so that it may expand gradually as a flute width goes to opening following this bottom vertical section.

[0034] According to invention of a claim 3, it becomes advantageous, when the side and the base of a pointing slot turn into neither a split face nor a split side, but forming in a smooth field becomes easy and quality and appearance are made good, since the base of the aforementioned pointing slot is located in the aforementioned woody fiberboard layer.

[0035] According to invention of a claim 4, the aforementioned woody substrate carries out the adhesion unification of the aforementioned woody fiber board on a tabular base-material front face, and since the thickness of this woody fiber board is 1.0mm or more 2.5mm or less, while it becomes easy to form a pointing slot so that the base may be located in the portion of a woody panel, it becomes advantageous to curvature prevention of flooring.

[0036] According to invention of a claim 5, strengthening a part for the pointing slot of a woody fiber board, since the base and the side in which it faces of a pointing slot of the aforementioned woody fiber board are constituted by the waterproof strengthening layer by synthetic resin, waterproofness can be raised, a blot of the swelling by the water of a woody fiber board and the extraction component of a woody fiber board is prevented, and it becomes advantageous to improvement in quality and appearance.

[0037] Appearance will also become good, while according to invention of a claim 6 it is prevented that a surface makeup layer exfoliates locally and it becomes advantageous to improvement in the endurance of a floor plate with water, other liquids, heat, etc., since the aforementioned surface makeup layer is formed of a sliced veneer and the base of the aforementioned pointing slot is located in the aforementioned sliced veneer.

[0038] According to invention of a claim 7, the aforementioned surface makeup layer becomes advantageous also to waterproofness, while becoming advantageous when raising the abrasion resistance and the resistance to contamination on the front face of a floor since synthetic-resin liquid is formed of the synthetic-resin strengthening sliced veneer which it sinks in and comes to harden.

[0039] According to invention of a claim 8, the aforementioned pointing slot has the flute width of the groove bottom section in 0.3mm or more range it is [ range ] 1.0mm, slot opening width of face is in the range of 2.0mm or more 5.0mm or less, and the good woody makeup flooring of appearance can be offered, maintaining many suitable properties as woody makeup flooring, since a channel depth is in the range of 0.4mm or more 1.5mm or less.

[0040] According to invention of a claim 9, the flooring with which the mutual side is compared consists of woody makeup flooring indicated by any 1 of a claim 1 or the claims 8. An angle is dropped and, as for the upper limb which adjacency \*\*\*\*\* faces, the radius of circle of an outside swelling curved-surface configuration is attached. at least to one side of both this flooring between the aforementioned radius-of-circle portion and abutting surfaces -- abbreviation, since the flat step is formed When woody makeup floor plates are connected, the joint slot of the same configuration as the pointing slot established in the woody makeup flooring front face is formed in the connection section, it becomes what cannot carry out exterior distinction easily that flooring is connected, and it becomes advantageous to improvement in appearance.

[0041]

[Embodiments of the Invention] (Operation gestalt 1) Drawing 1 is the plan of the woody makeup flooring A concerning this operation gestalt, and the pointing slot where 1 was formed in the front face of woody makeup flooring A and which is prolonged in all directions, and 4 are surface makeup layers in this drawing. As shown in drawing 2, this woody makeup floor plate A is equipped with the woody substrate constituted by pasting up the woody fiber board 3 on the front face of the tabular base material 2 by the plywood, a sliced veneer pastes the front face by the side of the woody fiber board 3 of this woody substrate, and the surface makeup layer 4 is formed. Moreover, one or more pointing slots 1 parallel to the longitudinal direction of the woody makeup floor plate A are

established in surface makeup layer 4 front face.

[0042] Furthermore, the tabular base material equipped one side with the male real part 5, and equips the side of another side with the female real part 6 so that two or more woody makeup flooring A can be connected. And when two or more woody makeup flooring A is connected, as for the upper-limb section 7 by the side of the male real part 5, and the upper-limb section 8 by the side of the female real part 6, beveling processing is made so that the same slot as the pointing slot 1 established in the front face of the aforementioned surface makeup layer 4 may be formed in the connection section.

[0043] Specific gravity 0.6 to 0.9 and the thickness of the aforementioned woody fiber board 3 are 1.0-2.5mm (thickness which is  $1/3$  of the tabular base material 2 -  $1/5$  grades) things. It is desirable to perform processing which flood with synthetic-resin liquid, such as unsaturated-polyester system resin liquid and urethane system resin liquid, and the whole material is infiltrated before the aforementioned adhesion processing, or applies the above-mentioned synthetic-resin liquid to a material side, is made to carry out to osmosis sink in into material, and is stiffened. The sliced veneer which constitutes the aforementioned surface makeup layer 4 is a thing with a thickness of 0.2-3mm, and it is suitable for it to perform processing which the whole material is immersed and infiltrated at synthetic-resin liquid, such as unsaturated-polyester system resin liquid and urethane system resin liquid, or applies the above-mentioned synthetic-resin liquid to a sliced veneer, is made to carry out to osmosis sink in into a sliced veneer, and is stiffened before the aforementioned adhesion processing. What is necessary is just to use a 0.4mm thing as the aforementioned sliced veneer as the aforementioned woody fiber board 3, when using the inside density fiberboard (MDF) of 1.3mm in thickness, and specific gravity 0.78.

[0044] Drawing 3 shows the enlarged view of the pointing slot 1 in a cross section perpendicular to the longitudinal direction of the woody makeup floor plate A. This pointing slot 1 is equipped with the base 12 formed in abbreviation flatness, and the sides 11 and 11 formed in the curved surface of an outside swelling so that a flute width might be gradually expanded as it goes to opening from this base 12 in which it faces. And the part and base 12 of the side 11 are located in the layer of the woody fiber board 3. Moreover, the paint for example, by the urethane system synthetic-resin transparent paint is continuously given to the front face of the surface makeup layer 4, and the inside of the pointing slot 1, and the paint film 13 is formed.

[0045] For the width of face of a base 12, the opening width of face of 0.3-1.0mm and a slot upper limit is [ 2.0-5.0mm and the channel depth of the aforementioned pointing slot 1 ] 0.4-1.5mm, for example, cutting of the width of face of a base 12 is carried out so that the opening width of face of 0.8mm and a slot upper limit may be set to 2.5mm and the depth of flute may be set to 0.7mm.

[0046] Cutting implements, such as a combination cutter, a saw, and a router, are used for cutting of the aforementioned pointing slot 1. Drawing 4 shows the example of cutting, before it gives the above-mentioned paint, it forms the slot which reaches the woody fiber board 3 from the front face of the surface makeup layer 4 by the cutter 14, after that, surface data smoothing is given by sanding etc. if needed, and paint is made.

[0047] moreover, between the abutting surface 16 which the upper-limb section 8 of the female real part 5 is rounded [ of the outside swelling curved-surface configuration which drew the curve more nearly circular than the upper surface of the surface makeup layer 4, and carried out the downward inclination / 15 ], and contacts the side edge side of the next woody makeup flooring A further at it as shown in drawing 5, and radii of circle 15 – abbreviation – the flat step 17 is formed A radius of circle 15 is the same configuration as the side 11 of the aforementioned pointing slot 1, and the step 17 is formed in the same width of face as the base 12 of the aforementioned pointing slot 1. On the other hand, as shown in drawing 6, the radius of circle 15 of the outside swelling curved-surface configuration which drew the curve more nearly circular than the upper surface of the surface makeup layer 4, and carried out the downward inclination so that it might become the same configuration as the side 11 of the aforementioned pointing slot 1 is formed in the upper-limb section 7 of the male real part 5. The abutting surface 16 to which the soffit of this radius of circle 15 contacts the side edge side of the next woody makeup flooring A is followed, and the step is not formed.

[0048] The radius of circle 15 and step 17 by the side of the above-mentioned female real part 6 can be formed combining the cutter 18 for carrying out cutting of a radius of circle 15 and the step 17, as

shown in drawing 7, and the cutter 19 which carries out cutting of the edge of a step 17.

[0049] Therefore, as shown in drawing 8, when the male real part 5 of woody makeup flooring A and the female real part 6 of the next woody makeup flooring A are connected, the pointing slot 1 formed in the front face of the surface makeup layer 4 and the same pointing slot 10 will be formed in the connection section concerned of the aforementioned radii of circle 15 and 15 and a step 17.

[0050] Moreover, although it is generally difficult to be stabilized and to manufacture a density woody fiber board (for example, thing with a thickness of about 1.3mm), while [ thin ] being used for this operation gestalt, such a thin woody fiber board can be obtained with a division method. Namely, it carries out sanding of the front face, and forms the layer of the thin woody fiber board 3 until it becomes necessary thickness if needed, after manufacturing the thick woody fiber board more than the double precision of required thickness, halving this to a plate surface and parallel and pasting this up on the front face of the tabular base materials 2, such as a plywood. For example, a woody fiber board with a thickness of 3mm will be halved so that it may become 1.5mm in thickness, and it will carry out to 1.3mm in the thickness by sanding.

[0051] In addition, as for the woody fiber board with which the woody fiber board before division was divided since the density of a surface layer and a rear-face layer was higher than a core layer (interior) in many cases, the density of a parting plane may have become lower than the density of the field of an opposite side. In this case, although the field which can creep in principle may be pasted up on the tabular base material 2, if it is made for a side with high density to become a table, and it is made for the low side of density to become an adhesion side namely,, a surface stiff wood quality substrate can be obtained and it will become advantageous as flooring

[0052] as mentioned above, the side 11 and abbreviation whose pointing slot 1 formed in the front face of the aforementioned woody makeup flooring A has the curved-surface configuration of an outside swelling -- since it is constituted by the flat base 12, while a soft feeling of a design and a feeling of a walk are obtained, a feeling of depth or a feeling of emphasis is obtained, and the ornament nature of the woody makeup floor plate A is raised Moreover, directly under the surface makeup layer 4, since the woody fiber board 3 of inside density exists, a moderate degree of hardness is given to a floor front face, and it is hard to produce the blemish or depression by the falling object etc. And the thickness of this woody fiber board 3 is 1/4 -1/5 of the tabular base material 2. Since a grade is thin, curvature is not produced by adhesion to this tabular base material 2.

[0053] Moreover, the extraction component of the woody fiber board 3 serves as a blot, and it appears, or the woody fiber board 3 and the surface makeup layer (sliced veneer) 4 are swollen while the waterproofness of the part of the pointing slot 1 is high, since sinking-in processing of urethane system resin liquid is performed, and appearance does not become bad.

[0054] moreover, the pointing slot 1 -- abbreviation -- since it is the composition of having a flat base, it is not necessary to make the nose of cam of a cutting implement sharp, therefore the injury on the edge of a blade at the time of processing decreases And it is precise, and since [ in which the wood fiber carried out orientation at random ] it is constituted by the homogeneous high woody fiber board 3, the part and base 12 of the side 11 of this pointing slot 1 turn into neither a split face nor a split side by cutting, but can be made into a smooth and good surface treatment state, and processability or productivity is good [ a base ].

[0055] And since the pointing slot 1 of surface makeup layer 4 front face and the same pointing slot 10 are formed in the connection section of woody makeup flooring A and A, it is hard to recognize connection of woody makeup flooring A and A.

[0056] (Operation gestalt 2) Drawing 9 shows the woody makeup floor plate B concerning the operation gestalt 2 in a cross section perpendicular to a longitudinal direction. The bottom vertical sections 11a and 11a by which this gestalt started from the base 12 where the side 11 of the pointing slot 1 is flat to the perpendicular and which face, The feature is in the point constituted by the top curved-surface sections 11b and 11b which were formed in the curved-surface configuration of an outside swelling, and which face so that it may expand gradually as a flute width goes to opening following these bottom vertical sections 11a and 11a, and others are substantially [ as the operation gestalt 1 ] the same.

[0057] Therefore, in the case of this gestalt, securing a soft feeling of a design, and a feeling of a



walk by the top curved-surface sections 11b and 11b which face, existence of the flat base 12 is emphasized by the bottom vertical sections 11a and 11a which face, and the feeling of depth of the pointing slot 1 concerned is obtained further.

[0058] (Operation gestalt 3) Drawing 10 shows the woody makeup floor plate C concerning the operation gestalt 3 in a cross section perpendicular to a longitudinal direction. This gestalt has the feature in the point that the woody substrate consists of independent [ of the woody fiber board 3 ], other composition is substantially [ as the operation gestalt 1 or the operation gestalt 2 ] the same, and the same effect is acquired. However, you may make it form the pointing slot 1 like the thing of the operation gestalt 1 which does not have a bottom vertical section in the side.

[0059] (Operation gestalt 4) Drawing 11 shows the woody makeup floor plate D concerning the operation gestalt 4 in a cross section perpendicular to a longitudinal direction. This gestalt forms the surface makeup layer 4 by the thick sliced veneer, and is characterized by locating the base of the pointing slot 1 in the surface makeup layer 4, and other composition is substantially [ as the operation gestalt 1 or the operation gestalt 2 ] the same. However, you may make it form the pointing slot 1 like the thing of the operation gestalt 1 which does not have a bottom vertical section in the side.

[0060] Therefore, in the case of this gestalt, since all the sides of the pointing slot 1 and bases are constituted by the same material (sliced veneer), a sense of togetherness or a high-class feeling is obtained.

[0061] (Operation gestalt 5) Drawing 12 shows the woody makeup floor plate E concerning the operation gestalt 5 in a cross section perpendicular to a longitudinal direction. This gestalt has the feature in the point that the woody substrate was constituted by the tabular base material 2 by the plywood etc., and the woody fiber boards 3 and 3 pasted up on front reverse side both sides of this tabular base material 2, and other composition is substantially [ as the operation gestalt 4 ] the same. However, you may make it form the pointing slot 1 like the thing of the operation gestalt 1 which does not have a bottom vertical section in the side.

[0062] The woody fiber boards 3 and 3 of the front reverse side are things with a thickness of about 1.5mm obtained by the above-mentioned division method, and they are pasted up on the tabular base material 2 so that the hard side where the density is high may turn into a front face or a rear face.

[0063] Therefore, in the case of this form, it becomes advantageous when preventing generating of the depression by the falling object etc. since a surface degree of hardness becomes high, while the curvature of woody makeup flooring E is offset and being able to obtain flat nature certainly with the woody fiber boards 3 and 3 of the front reverse side.

[0064] (Operation form 6) Drawing 13 shows the woody makeup floor plate F concerning the operation form 6 in a cross section perpendicular to a longitudinal direction. This form has the feature in the point which the cushioning material 22 has pasted up on this base while the tabular base material 2 of a woody substrate equips the base with two or more end slots 21 which carry out opening, and two or more aforementioned end slots 21 set the interval crosswise [ flooring ], and are prolonged in the flooring longitudinal direction. Other composition is substantially [ as the operation form 1 or the operation form 2 ] the same. However, you may make it form the pointing slot 1 like the thing of the operation form 1 which does not have a bottom vertical section in the side.

[0065] Therefore, in the case of this form, the whole flooring can be made into a thing with cushioning properties, securing the degree of hardness on the front face of flooring with the woody fiber board 3. In addition, only either the above-mentioned end slot 21 or the cushioning materials 22 may be prepared.

[0066] (in addition to this) When pasting up the woody fiber board 3 on the front face of the tabular base material 2, you may make it paste up the woody backing veneer on a rear face, although the woody fiber board 3 is pasted up on the rear face of the tabular base material 2 and the curvature of flooring was certainly suppressed with the above-mentioned operation form 5.

[0067] As a tabular base material, laminated veneer lumber (LVL) besides a plywood, a veneer laminate (LVB), a particle board, a strand board, accumulation material, etc. can be used, and it is not limited especially.

[0068] Moreover, the direct printing layer to the tissue and the woody substrate front face into which the synthetic resin which printed the grain pattern besides a sliced veneer etc., such as a tissue and

melamine resin, was infiltrated as a surface makeup layer 4 etc. can be adopted, and it is not limited especially. You may not perform such processing, although what sinks in and stiffened synthetic-resin liquid is desirable when using a sliced veneer.

[0069] the surface makeup layer 4 -- case the surface-protection nature as flooring is not enough -- the inside of the surface makeup layer 4 or the pointing slot 1 -- the synthetic-resin system paint of transparency or a coloring translucency -- 1 time -- or a multiple-times application may be carried out and a surface-protection layer may be prepared As such a synthetic-resin system paint, an urethane system resin, an acrylic resin, an acrylic urethane system resin, an amino alkyd resin, etc. can be mentioned, and it is not limited especially.

[0070] Moreover, you may establish the pointing slot 1 in the portion which expresses the joint of the piece of marquetry in the case of the flooring of a marquetry tone. Furthermore, especially the number of the pointing slots 1 formed in a woody makeup floor plate front face is not limited, and is suitably formed in accordance with the size of a woody makeup floor plate. Moreover, the pointing slot 1 is not restricted to what is linearly prepared in a floor plate front face, but may form neither a zigzag pattern nor a moire, and is not limited especially.

[0071] Moreover, after forming the pointing slot 1 besides [ which stiffens / stiffen and it immerse sinks / besides / in / the woody fiber board 3 and a sliced veneer to synthetic-resin liquid in advance ] a method in the portion which forms the pointing slot 1 of a woody substrate as a method of sinking in and stiffening synthetic-resin liquid; the method of sinking in and stiffening synthetic-resin liquid from a part for this pointing slot is also employable. As the synthetic resin, you may be things other than an urethane system resin and a unsaturated-polyester system resin.

[0072] and the thing limited to male real part and female real part as a method of connecting two or more woody makeup flooring -- it is not -- being mere -- you may compare and come out

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PRIOR ART

[Description of the Prior Art] As shown in drawing 14, while carrying out beveling processing of the flooring upper-limb section aslant as woody makeup flooring, the thing in which the pointing slots a, such as the shape of V character, were formed on the flooring front face is known. In such woody makeup flooring, when the female real part b and the male real part c which were formed in the side edge side where adjacency \*\*\*\*\* makeup flooring faces are connected, the pointing slot a formed in the flooring front face and the same pointing slot d will be formed in the connection section front-face side of the above-mentioned beveling processing section. Thus, when the above-mentioned connection section stops having been conspicuous from presenting the same appearance as the pointing slot a on the front face of flooring and the whole floor is seen, sensibility which many woody makeup piece material has pasted up is given, and the pointing slot d of the connection section concerned is raising the ornament nature on the front face of a floor conjointly with the pointing slot a on the front face of flooring.

[0003] However, while the V character-like pointing slot a has an advantage of a plain-gauze cone in cutting, in order to make a feeling of a walk, and a soft feeling of a design appear, there is an inadequate point. For this reason, when the upper-limb section of woody makeup flooring is made into a curved-surface configuration and junction connection of the woody makeup flooring is carried out, it is also made that the joint slot e where the side in which it faced as shown in the connection section at drawing 15 became a curved-surface configuration is formed.

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**DESCRIPTION OF DRAWINGS**

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[Brief Description of the Drawings]

- [Drawing 1] The plan of the woody makeup flooring A concerning the operation gestalt 1.
- [Drawing 2] The perspective diagram in which making this woody makeup flooring A into a cross section in part, and showing it.
- [Drawing 3] Some expanded sectional views of this woody makeup flooring A.
- [Drawing 4] The cross section showing the cutting state of the pointing slot of this gestalt.
- [Drawing 5] The cross section showing the chamfer of the male real part top of this gestalt.
- [Drawing 6] The cross section showing the chamfer of the female real part top of this gestalt.
- [Drawing 7] The cross section showing the beveling processing state of the male real part top of this gestalt.
- [Drawing 8] The cross section showing the connection section of the adjacency \*\*\*\*\* makeup flooring of this gestalt.
- [Drawing 9] The cross section showing some woody makeup flooring B concerning the operation gestalt 2.
- [Drawing 10] The cross section showing some woody makeup flooring C concerning the operation gestalt 3.
- [Drawing 11] The cross section showing some woody makeup flooring D concerning the operation gestalt 4.
- [Drawing 12] The cross section showing some woody makeup flooring E concerning the operation gestalt 5.
- [Drawing 13] The cross section showing some woody makeup flooring F concerning the operation gestalt 6.
- [Drawing 14] The cross section showing the conventional example.
- [Drawing 15] The cross section showing another conventional example.

[Description of Notations]

- 1 Pointing Slot
- 2 Tabular Base Material
- 3 Woody Fiber Board
- 4 Surface Makeup Layer
- 5 Male Real Part
- 6 Female Real Part
- 7 Male Real Part Side Upper-Limb Section
- 8 Female Real Part Side Upper-Limb Section
- 11 Side
- 11a Bottom vertical section
- 11b Top curved-surface section

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CLAIMS

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## [Claim(s)]

[Claim 1] Woody makeup flooring which has the pointing slot by cutting which the surface makeup layer was prepared in the front face of a woody substrate, and carried out opening to the front face of this surface makeup layer characterized by providing the following. It is the base where, as for the aforementioned woody substrate, the surface layer was constituted by the with an or more 0.6 specific gravity [ or less 0.9 ] woody fiber board at least, and the aforementioned pointing slot was formed in abbreviation flatness. The side formed in the outside swelling curved surface so that a flute width might be gradually expanded as it goes to opening from this base in which it faces.

[Claim 2] It is woody makeup flooring which has a pointing slot by cutting which the surface makeup layer was prepared in the front face of a woody substrate, and carried out opening to the front face of this surface makeup layer. the aforementioned woody substrate A surface layer is constituted by the with an or more 0.6 specific gravity [ or less 0.9 ] woody fiber board at least. the aforementioned pointing slot It is formed of cutting and the aforementioned side which carries out relativity so that it may have the base formed in abbreviation flatness, and the side which started from this base and which faces Woody makeup flooring characterized by being constituted by the bottom vertical section which started from the aforementioned base to the abbreviation perpendicular, and which faces, and the top curved-surface section which was formed in the curved-surface configuration of an outside swelling so that it might expand gradually as a flute width goes to opening following this bottom vertical section, and which faces.

[Claim 3] Woody makeup flooring according to claim 1 or 2 with which the base of the aforementioned pointing slot is characterized by being located in the aforementioned woody fiberboard layer.

[Claim 4] Woody makeup flooring according to claim 1 to 3 with which the aforementioned woody substrate carries out the adhesion unification of the aforementioned woody fiber board on a tabular base-material front face, and thickness of this woody fiber board is characterized by 1.0mm or more being 2.5mm or less.

[Claim 5] Woody makeup flooring according to claim 3 or 4 characterized by forming the waterproof strengthening layer which synthetic-resin liquid sinks into the part of the aforementioned woody fiber board in which the aforementioned pointing slot was formed at least, and it comes to harden, and the base and the side in which it faces of the aforementioned pointing slot being constituted by the aforementioned waterproof strengthening layer.

[Claim 6] Woody makeup flooring according to claim 1 characterized by forming the aforementioned surface makeup layer of a sliced veneer, and locating the base of the aforementioned pointing slot in the aforementioned sliced veneer.

[Claim 7] Woody makeup flooring according to claim 1 to 6 characterized by being formed of the synthetic-resin strengthening sliced veneer which synthetic-resin liquid sinks in and the aforementioned surface makeup layer comes to harden.

[Claim 8] The aforementioned pointing slot is woody makeup flooring according to claim 1 to 7 characterized by for the flute width of the groove bottom section being in 0.3mm or more range it is [ range ] 1.0mm, for slot opening width of face being in the range of 2.0mm or more 5.0mm or less, and a channel depth being in the range of 0.4mm or more 1.5mm or less.

[Claim 9] It consists of two or more flooring with which the mutual side is compared. each

aforementioned flooring It consists of woody makeup flooring indicated by any 1 of a claim 1 or the claims 8, and an angle is dropped and, as for the upper limb which the aforementioned adjacency \*\*\*\*\* faces, the radius of circle of an outside swelling curved-surface configuration is attached. at least to one side of both the aforementioned flooring The aforementioned radius-of-circle portion, between the abutting surfaces which contact the other party flooring below this portion – abbreviation – the woody makeup flooring characterized by forming the flat step should put together

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 TECHNICAL PROBLEM
 

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[Problem(s) to be Solved by the Invention] However, although a soft feeling of a design and a feeling of a walk improve compared with a V character-like pointing slot in the case of the pointing slot of the aforementioned curved-surface configuration, when a soft feeling of a design appears on the other hand, a feeling of emphasis and a feeling of depth as a pointing slot will become thin. Although making a pointing slot deep was also considered, in the case of flooring, it was difficult for there to be a limitation, even though it forms a deep joint slot, and to raise ornament nature from a viewpoint of cleaning nature or intensity.

[0005] Moreover, as shown in drawing 15, even if it was comparatively easy to form the pointing slot of a curved-surface configuration by carrying out beveling processing of the upper-limb section of a woody makeup floor plate, when the front face of a woody makeup floor plate was processed and the pointing slot of a curved-surface configuration was formed, there were the following problems.

[0006] (1) It is possible to carry out die pressing and to carry out, applying heat with a press as the processing method. However, by this method, if it is at batch processing in every sheet, a colander is not obtained but productivity becomes very bad. Moreover, since only the near portion of a pointing slot turns precisely by condensation and internal stress is accumulated, if moisture is absorbed, it is going to blister and return and there is a fear of reducing the ornament nature of the pointing slot itself.

[0007] (2) After cutting with cutting implements, such as a cutter, a saw, and a router, as other processing methods, the method which forms by performing sanding etc. is also considered. However, in the case of the pointing slot of a curved-surface configuration, the cutting implement of the slot cross-section configuration and the configuration where the similar edge-of-a-blade edge sharpened very much must be used, and it has the problem of being easy to damage the edge of a blade. Moreover, when polish repair of the cutting implement is carried out, the shape of a cutting tooth form is changeable, and there is un-arranging [ that it is difficult to maintain quirk-like precision ]. Even if it makes it sanding, after beveling the upper-limb section of a woody makeup floor plate, even if the thing of the grade which unlike the case where carry out sanding and a form is prepared makes a cutting side smooth since it is sanding of a cutting slot can be performed, it is difficult to make the pointing slot of a beautiful curved-surface configuration to the cutting slot.

[0008] (3) Moreover, if a pointing slot is formed by cutting when a plywood is used as a woody substrate, it will be finished, even if a split face with the porous main part of a plywood may be exposed to pointing Mizouchi, or it may produce a split and it paints in that case, and appearance will not become good. Especially, in the case of the pointing slot of a curved-surface configuration, such surface discontinuity tends to be conspicuous, and it becomes disadvantageous for improvement in ornament nature. Furthermore, when using a plywood as a woody substrate, surface hardness may be insufficient and there is also a problem that a blemish becomes easy to be attached to a surface makeup layer, such as producing a blemish by the wagon with an axle-pin rake, or producing the fall marks of an object.

[0009] That is, the technical problem of this invention is to offer the woody makeup flooring which solved the problem like \*\*\*\*.

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[0005] Moreover, as shown in drawing 15, even if it was comparatively easy to form the pointing slot of a curved-surface configuration by carrying out beveling processing of the upper-limb section of a woody makeup floor plate, when the front face of a woody makeup floor plate was processed and the pointing slot of a curved-surface configuration was formed, there were the following problems.

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## MEANS

[Means for Solving the Problem] Invention of this application has solved the above-mentioned technical problem by [ of a woody substrate ] the woody fiber board of predetermined specific gravity constituting a surface layer at least, and adding a device to the configuration of a pointing slot.

[0011] Namely, invention concerning a claim 1 is woody makeup flooring which has a pointing slot by cutting which the surface makeup layer was prepared in the front face of a woody substrate, and carried out opening to the front face of this surface makeup layer. As for the aforementioned woody substrate, a surface layer is constituted by the with an or more 0.6 specific gravity [ or less 0.9 ] woody fiber board at least. the aforementioned pointing slot It is characterized by being formed of cutting so that it may have the base formed in abbreviation flatness, and the side formed in the outside swelling curved surface so that a flute width might be gradually expanded as it goes to opening from this base in which it faces.

[0012] since the base on which the side of the outside swelling curved-surface configuration where a pointing slot faces became abbreviation flatness is followed with such invention, while securing a soft feeling of a design, and a feeling of a walk -- the above -- by existence of a flat base, it becomes easy to give a feeling of depth and a feeling of emphasis to the pointing slot concerned, and it becomes advantageous to improvement in the ornament nature of a woody makeup floor plate

[0013] Moreover, it is not necessary to use for cutting of this pointing slot the cutting implement with which the edge of a blade sharpened sharp, and the irregular problem of the shape of a quirk accompanying repair of the chip of the edge of a blade or the edge of a blade is solved, moreover, since it is cutting, a hot press does not need to be used for the base of a pointing slot being formed in abbreviation flatness, and it becomes advantageous also to the improvement in quality, and improvement in productivity.

[0014] Furthermore, since the bottom of a surface makeup layer is constituted by the with an or more 0.6 specific gravity [ or less 0.9 ] woody fiber board, the moderate degree of hardness as flooring is given, the floor front face by the wagon with an axle-pin rake or the falling object gets damaged, and it becomes advantageous to prevention. if the specific gravity of a woody fiber board becomes less than 0.6 -- the degree of hardness on the front face of flooring -- running short -- the above -- if the specific gravity exceeds 0.9, it will become inadequate for protection from a falling object etc., and it becomes hard too much, and a feeling of a walk will become bad or the machinability of a slot will become bad

[0015] Invention concerning a claim 2 is woody makeup flooring which has a pointing slot by cutting which the surface makeup layer was prepared in the front face of a woody substrate, and carried out opening to the front face of this surface makeup layer. the aforementioned woody substrate A surface layer is constituted by the with an or more 0.6 specific gravity [ or less 0.9 ] woody fiber board at least. the aforementioned pointing slot It is formed of cutting and the aforementioned side which carries out relativity so that it may have the base formed in abbreviation flatness, and the side which started from this base and which faces It is characterized by being constituted by the bottom vertical section which started from the aforementioned base to the abbreviation perpendicular and which faces, and the top curved-surface section which was formed in the curved-surface configuration of an outside swelling so that it might expand gradually as a flute width goes to opening following this bottom vertical section and which faces.

[0016] Therefore, securing a soft feeling of a design, and a feeling of a walk by the top curved-surface section which faces, existence of a flat base is emphasized by the bottom vertical section which faces, and the feeling of depth of the pointing slot concerned is obtained further.

[0017] The base of the aforementioned pointing slot is located in the aforementioned woody fiberboard layer in woody makeup flooring according to claim 1 or 2 by invention concerning a claim 3.

[0018] That is, a woody fiber board is precise, and since it is a homogeneous material in which woody fiber carried out orientation at random, unlike the case where cutting of the plywood is carried out, the side and the base of a pointing slot turn into neither a split face nor a split side, but become smooth appearance.

[0019] In woody makeup flooring according to claim 1 to 3, the aforementioned woody substrate carries out the adhesion unification of the aforementioned woody fiber board on a tabular base-material front face, and the thickness of this woody fiber board of invention concerning a claim 4 is 1.0mm or more 2.5mm or less.

[0020] In the above-mentioned composition, it becomes easy to form a pointing slot so that the base may be located in the portion of a woody panel, and it becomes advantageous also to the degree-of-hardness reservation on the front face of flooring. And even when pasting up a woody fiber board only on the front-face side of a tabular base material, it is hard to cause the curvature of flooring (even when not forming a woody fiber board in the rear-face side of a tabular base material).

[0021] In addition, if it becomes difficult to obtain the hardness expected to a woody fiber board if the thickness of a woody fiber board is set to less than 1.0mm and the thickness exceeds 2.5mm, it will become easy to generate faults, such as curvature, by the difference in the material property of the tabular base material which a woody fiber board and it paste up.

[0022] In woody makeup flooring according to claim 3 or 4, the waterproof strengthening layer which synthetic-resin liquid sinks into the part of the aforementioned woody fiber board in which the aforementioned pointing slot was formed at least, and it comes to harden is formed by the aforementioned waterproof strengthening layer, and the base and the side in which it faces of the aforementioned pointing slot are constituted by invention concerning a claim 5.

[0023] When in the above-mentioned composition the waterproofing effect is acquired and water etc. is spilt by synthetic resin, a woody fiber board swells according to water absorption or moisture absorption, it can suppress appearance becoming bad, or the extraction component of a woody fiber board serving as a blot, and appearing, and, moreover, a part for the pointing slot of a woody fiber board is strengthened. Of course, the whole woody fiber board may infiltrate synthetic-resin liquid, and you may make it harden.

[0024] In woody makeup flooring according to claim 1, the aforementioned surface makeup layer is formed of a sliced veneer by invention concerning a claim 6, and the base of the aforementioned pointing slot is located in the aforementioned sliced veneer.

[0025] Since in the above-mentioned composition only a surface makeup layer appears in a floor plate front face and an adhesion interface is not exposed to a front face While it is prevented that a surface makeup layer exfoliates locally and it becomes advantageous to improvement in the endurance of a floor plate with the water which may fall to the floor, other liquids, heat, etc. Since a flooring front face, and the side of a pointing slot and a base consist of the same material, the appearance excellent in a sense of togetherness and the high-class feeling can be formed.

[0026] In invention according to claim 1 to 6, the aforementioned surface makeup layer is formed by invention concerning a claim 7 of the synthetic-resin strengthening sliced veneer which synthetic-resin liquid sinks in and it comes to harden.

[0027] While becoming advantageous when raising the abrasion resistance and the resistance to contamination on the front face of a floor since synthetic-resin liquid has sunk in and hardened to the sliced veneer which constitutes a surface makeup layer in the above-mentioned composition, in a part for a pointing slot, absorbing water from the portion is suppressed according to the waterproofing effect of synthetic resin. Especially, a pointing slot can suppress further the appearance fall by the swelling for a pointing slot, contamination, etc. conjointly with a high-class feeling of the above like woody makeup flooring according to claim 6 by what is formed within the limits of the synthetic-resin strengthening sliced veneer.

[0028] In invention concerning a claim 8, in woody makeup flooring according to claim 1 to 7, the aforementioned pointing slot has the flute width of the groove bottom section in 0.3mm or more range it is [ range ] 1.0mm, slot opening width of face is in the range of 2.0mm or more 5.0mm or less, and a channel depth is in the range of 0.4mm or more 1.5mm or less.

[0029] The good woody makeup flooring of appearance can be offered maintaining many suitable properties as woody makeup flooring, since the form of a pointing slot is limited to the above-mentioned range in the above-mentioned composition. namely, -- if the flute width of the groove bottom section is set to less than 0.3mm -- abbreviation -- since the feeling of depth and the feeling of emphasis of the pointing slot by existence of a flat base become scarce, and cutting becomes difficult and productivity falls, it is not desirable On the other hand, if the flute width of the groove bottom section becomes larger than 1.0mm, while a slot's becoming opening too much and becoming easy to give sense of incongruity to the sole at the time of a walk, it is not desirable in appearance. moreover -- since it will be hard coming to give a soft feeling of a design if slot opening width of face is set to less than 2.0mm -- an exterior -- it is not desirable on the other hand -- if slot opening width of face exceeds 5.0mm -- a feeling of a walk -- bad -- becoming (sense of incongruity being given to the sole) -- it becomes the low appearance of smooth ornament nature and is not desirable Furthermore, if set to less than 0.4mm, since a pointing slot will stop being conspicuous and ornament nature will fall, the depth of flute is not desirable. On the other hand, since sense of incongruity may be produced, cleaning may become difficult or the intensity as a floor may fall as a floor plate even if the depth of flute becomes deep too much with 1.5mm or more, it is not desirable.

[0030] Invention concerning a claim 9 consists of two or more flooring with which the mutual side is compared. each aforementioned flooring It consists of woody makeup flooring indicated by any 1 of a claim 1 or the claims 8, and an angle is dropped and, as for the upper limb which the aforementioned adjacency \*\*\*\*\* faces, the radius of circle of an outside swelling curved-surface configuration is attached. at least to one side of both the aforementioned flooring The aforementioned radius-of-circle portion, between the abutting surfaces which contact the other party flooring below this portion -- abbreviation -- it is called the combination of the woody makeup flooring characterized by forming the flat step

[0031] When woody makeup floor plates are connected in the above-mentioned composition, the joint slot of the same configuration as the pointing slot established in the woody makeup flooring front face is formed in the connection section.

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[Translation done.]